

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MASSACHUSETTS

IN RE:)
) CA No. 01-12257-PBS
PHARMACEUTICAL INDUSTRY AVERAGE) CA No. 06-11337-PBS
WHOLESALE PRICE LITIGATION) Pages 1 - 237
)

DAUBERT HEARING - DAY THREE
BEFORE THE HONORABLE PATTI B. SARIS
UNITED STATES DISTRICT JUDGE

United States District Court
1 Courthouse Way, Courtroom 19
Boston, Massachusetts
January 22, 2010, 9:05 a.m.

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OFFICIAL COURT REPORTER
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Boston, MA 02210
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I N D E X

WITNESS	DIRECT	CROSS	REDIRECT	RECROSS
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JAMES W. HUGHES	13			
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P R O C E E D I N G S

THE CLERK: In Re: Pharmaceutical Industry Average Wholesale Price Litigation, Civil Action 01-12257 and 06-11337, will now be heard before this Court. Will counsel please identify themselves for the record.

MR. LAVINE: Mark Lavine for the United States.

MR. BREEN: Jim Breen for the Relator, Ven-A-Care of the Florida Keys.

MR. DALY: Good morning, your Honor. Jim Daly for Abbott Laboratories.

MR. TORBORG: Good morning. David Torborg for Abbott Laboratories.

MR. HENDERSON: George Henderson for the United States.

MS. BROOKER: Renee Brooker from Washington, Civil Division, for the United States.

MS. ST. PETER-GRIFFITH: Ann St. Peter-Griffith, United States Attorney's Office, Southern District of Florida, on behalf of the United States.

THE COURT: I'm so sorry you had to come up.

MS. ST. PETER-GRIFFITH: We do too, your Honor.

THE COURT: That's true. All right, well, good.

MR. LAVINE: With your permission, we'd like to have Dr. Duggan, who's able to attend today, sit with us at counsel table.

1 THE COURT: Yes, of course. Let me just say Happy New
2 Year to everybody and welcome back.

3 Are we with your witness today?

4 MR. DALY: Yes, your Honor.

5 THE COURT: I have this whole pile of documents from
6 last time. Is there anything new that I should have?

7 MR. LAVINE: Yes, your Honor. Actually, we did file a
8 motion to disallow some of the new materials --

9 THE COURT: I haven't read it.

10 MR. LAVINE: -- because they're fundamentally
11 different than anything that's ever been done in the case
12 before, just completely brand-new analysis.

13 THE COURT: Well, when did you get them?

14 MR. LAVINE: Last week, Friday night, Saturday
15 morning.

16 THE COURT: Didn't you do that to them?

17 MR. LAVINE: This is very different, and let me just
18 explain. It's a seismic shift in what they've done.

19 Mr. Hughes testified --

20 THE COURT: You know what, I'm --

21 MR. LAVINE: It's very important because it's just
22 such a --

23 THE COURT: You know, you added 9 states. I let
24 Dr. Duggan do that.

25 MR. LAVINE: But he did the exact same analysis for

1 the 10 states and applied that exact same analysis for 9 states.
2 Here we had Mr. Young saying, "I'm not doing any statistics,"
3 and Dr. Hughes said, "I was not asked to do any calculations.
4 All I did was read the report," and now for the first time ever
5 they're doing calculations.

6 THE COURT: Is that true?

7 MR. TORBORG: First of all, your Honor, they're
8 claiming this is a completely new theory from our experts.
9 Nothing could be further from the truth. We put in our
10 brief --

11 THE COURT: You know what, I can't evaluate without
12 doing it. Put him on the stand, and then I'll deal with it.
13 And I'm not going to prejudice you. If you can't cross him,
14 then he'll have to come back, and they'll have to pay to bring
15 him back. All right, fair enough?

16 MR. LAVINE: Yes, your Honor.

17 THE COURT: If it's brand-new and you haven't had time
18 to prepare, they will have to pay to bring him back.

19 MR. LAVINE: And we may need, you know, some
20 additional time for Dr. Duggan perhaps to do additional
21 analysis. We'll see how it all plays out today.

22 THE COURT: That's right, because I just don't want to
23 spend the morning haggling over it.

24 MR. LAVINE: I understand, but it is very different.

25 MR. TORBORG: I respectfully disagree, but I don't

1 want to get into it this morning.

2 THE COURT: Well, you know, you're doing it to each
3 other, and this is the last time. There's going to be no new
4 submissions -- period, end of story -- unless it's Duggan
5 responding to your guy, or whoever your expert is that you
6 choose. You know, you're doing it to each other, it's bad
7 gamesmanship, and the only reason I'm allowing it is because he
8 did it to you. There's nothing new that's going to come in
9 today, right?

10 MR. TORBORG: No.

11 THE COURT: No brand-new charts. I'm not allowing
12 anything new that you haven't shown him before.

13 MR. TORBORG: Nothing new.

14 MR. LAVINE: I've looked at the binder, and there are
15 some new things.

16 THE COURT: Then I strike them.

17 MR. TORBORG: They're not charts. They're the
18 Reference Guide to Statistics.

19 THE COURT: You know, but why are you doing that to
20 him? I mean, I thought we'd been through this.

21 MR. TORBORG: We cited the Reference Guide to
22 Statistics in our brief. It's a well-known guide.

23 THE COURT: All right, but no new data, no new
24 analysis, no new calculations. Anyone who does it will be
25 sanctioned.

1 MR. TORBORG: Absolutely no new calculations he has
2 not been given since last Wednesday.

3 THE COURT: Wednesday, a week ago Wednesday?

4 MR. TORBORG: Yes.

5 THE COURT: Not two days ago?

6 MR. TORBORG: Correct. Thank you.

7 Your Honor, I think it makes sense to first give you
8 an overview about what our experts are going to talk about
9 today so you have an idea of where we're going, so I've
10 prepared a slide. I could put it on the projector.

11 THE COURT: Have they been shown the slide?

12 MR. TORBORG: This is just talking about what we're
13 going to be doing. It's consistent with all the opinions.
14 Your Honor, if I may approach?

15 THE COURT: You know what makes the most sense to do,
16 though? If Dr. Duggan or anyone has a response to the new
17 data, you're just going to submit it. I'm not guarantying a
18 hearing unless you want one, your call, your last shot.

19 MR. LAVINE: I'm sorry, I'm not sure I understand. So
20 in addition to this one, you mean, or --

21 THE COURT: Excuse me. I understand from you that
22 there are some new calculations that came in a week ago
23 Wednesday.

24 MR. LAVINE: Yes.

25 THE COURT: If Dr. Duggan disagrees with them and

1 feels prepared to do it today, I'll hear him. If he doesn't
2 and he wants to submit an affidavit in response, I would let
3 him do that, but I will only hold another hearing if you choose
4 to.

5 MR. LAVINE: Thank you, Judge. It is something we can
6 make some headway on, but it was 20,000 new calculations, so we
7 can't do a comprehensive review today.

8 THE COURT: That may be, but I'm not guaranteeing
9 another hearing. I need to make some headway on this. I was
10 looking at the parties' submissions as to what's pending. And,
11 you know, I don't know if you know this, but I don't go off the
12 draw. I get all my normal criminal and civil proceedings plus
13 this, and I get one extra law clerk. I'm being snowed under.
14 I don't know how else to put it. We have so much. We have a
15 whole day today, we have a whole day Tuesday and maybe part of
16 Wednesday, and I'm starting all the Neurontin trials, which is
17 the other multidistrict litigation case that I have. I don't
18 know that I can fit in another evidentiary hearing. I'm just
19 putting it out there.

20 MR. BREEN: Your Honor, just so you'll know, when we
21 received the material from the defendants last week, we worked
22 hard at trying to prepare for today in the event that your
23 Honor denied the motion to strike. We'll do our best.

24 THE COURT: You do your best, and then if you can't,
25 I'll allow you to supplement with a supplemental affidavit, but

1 just to make it clear, I'm not guarantying another hearing.

2 MR. BREEN: I Understand, your Honor. We'll do our
3 level best, but we just don't know if we can get through it
4 based upon --

5 THE COURT: That's fair, that's fair. They took that
6 risk. And the only reason I'm allowing it is, I allowed 9 new
7 states, which was very important to your case. So go ahead.

8 MR. TORBORG: The slide that I take up to you just
9 gives an overview of where we're going today so you have an
10 idea. Dr. Hughes is a professor at Bates College, a professor
11 of economics. He'll be addressing the appropriateness of
12 Dr. Duggan's Medicare and Medicaid samples and extrapolations
13 under accepted statistical standards. He will also be
14 discussing the variability across the states and carriers and
15 how this impacts the reliability of Dr. Duggan's extrapolations,
16 particularly because he's not using random or representative
17 samples. He'll also be talking about Dr. Duggan's failure or
18 inability to include confidence intervals or sensitivity
19 analysis to assess the reliability of his work. He will also
20 be doing some clarifications of what Dr. Duggan did for
21 Medicare.

22 Mr. Young is a certified public accountant. He'll be
23 addressing the appropriateness of Dr. Duggan's samples under
24 published standards that are typically used in calculating
25 overpayments in the government programs. He'll also be

1 addressing some assertions that Dr. Duggan made about the
2 comparability of the sampled and non-sampled states; for
3 example, Duggan's per-claim spending analysis. He'll also be
4 talking --

5 THE COURT: Using all, I think, from 19 states?

6 MR. TORBORG: Dr. Duggan, if you might remember, he
7 had given some testimony about how he did a per-claim spending
8 comparison from the 10 states that he had that he used in his
9 first sample and then the 38 states that were not in his
10 sample.

11 THE COURT: Right, but then he added 9.

12 MR. TORBORG: And then he added 9, that's correct,
13 your Honor, but when he did his analysis, he was comparing the
14 10 and the 38 on a per-claim spending basis, so Mr. Young is
15 going to address that analysis. If you recall that one, that's
16 what he's going to be addressing.

17 He's also going to be addressing the unique nature of
18 how states reimbursed the kind of drugs at issue here and why
19 that matters, and examples of how Dr. Duggan's extrapolations
20 lead to results that don't make any sense. He'll also discuss
21 some issues regarding within-state extrapolation, and then
22 also, finally, he'll be responding to Dr. Duggan's assertion
23 that his but-for price that he used was conservative in Abbott's
24 favor. I think the implication there was that any infirmities
25 in the extrapolations can be excused because he's using this

1 favorable price to Abbott, and we don't think that's true, and
2 we're going to discuss that.

3 So I'd like to start by calling Dr. Hughes.

4 JAMES W. HUGHES

5 having been first duly sworn, was examined and testified as
6 follows:

7 THE CLERK: Would you please state your name and spell
8 it for the record.

9 THE WITNESS: James Wesley Hughes, J-a-m-e-s
10 W-e-s-l-e-y H-u-g-h-e-s.

11 (Discussion off the record.)

12 MR. TORBORG: Your Honor, before we get started, we
13 have some materials we'd like to hand up that we'll be using
14 with our experts today.

15 THE COURT: Yes.

16 MR. TORBORG: These are the materials that were sent
17 to them before last week and also some last week.

18 (Discussion off the record.)

19 MR. TORBORG: Your Honor, I promise we're not going to
20 be going through every page of all of this. Some of it is --

21 THE COURT: How long do you figure that you're going
22 to need?

23 MR. TORBORG: I think for Dr. Hughes probably a little
24 over an hour, depending on, you know, the interaction of the
25 Court and, you know, what not.

1 THE COURT: I know, I hijack sometimes.

2 MR. TORBORG: And as the DOJ will attest, I'm
3 notoriously bad for estimating, but I'll do my best.

4 DIRECT EXAMINATION BY MR. TORBORG:

5 Q. Good morning, Dr. Hughes.

6 A. Good morning.

7 Q. Would you please introduce yourself.

8 A. I'm sorry. Now I'm not hearing you.

9 Q. Could you please introduce yourself.

10 A. Yes. I'm James Hughes from the Department of Economics at
11 Bates College in Lewiston, Maine.

12 Q. Have you been retained by Abbott Laboratories to serve as
13 a testifying expert in this case?

14 A. Yes, I have.

15 Q. Where are you currently employed?

16 A. Bates College.

17 Q. What is your position at Bates College?

18 A. I'm known as the Thomas Sowell Professor of Economics.

19 Q. And how long have you been there?

20 A. At Bates College, since 1992.

21 Q. What types of courses do you teach at Bates College?

22 A. I teach Introductory and Intermediate Microeconomic
23 Theory, I teach Labor Economics, I teach Health Economics. Not
24 at Bates, but I have taught Industrial Organization at a
25 previous appointment. I've taught courses on intellectual

1 property, The Economics of Intellectual Property, and a course
2 called Economics of Women, Men, and Work, which is basically a
3 course on the status of women in the American workplace.

4 Q. Where did you receive your education?

5 A. I received my BA and MA from Boston University and my
6 Ph.D. from the University of Michigan.

7 Q. Dr. Hughes, if you want to look at the Judge when giving
8 testimony.

9 A. Okay.

10 THE COURT: Treat me like an undergraduate.

11 THE WITNESS: Okay, thank you.

12 Q. How long have you been teaching or working in the field of
13 economics?

14 A. I've been working as an economist for over thirty years,
15 since 1978.

16 Q. Do you have any experience in the area of third-party
17 reimbursements?

18 A. Yes, I do.

19 Q. Specifically relating to prescription drugs?

20 A. Yes, I do.

21 Q. What kind of experience do you have?

22 A. I have served -- well, in addition to my teaching, because
23 prescription drug reimbursement comes up in health economics as
24 a matter of course, I've worked as a consultant and I've worked
25 as a testifying expert in several other AWP matters. I've also

1 worked on --

2 THE COURT: For Abbott or for the industry?

3 THE WITNESS: This is the only case I've worked for
4 Abbott. I've worked for Aventis otherwise primarily.

5 THE COURT: So remind me, was that a brand or a
6 multi-source situation?

7 THE WITNESS: It's long ago. Okay, you would know the
8 cases, so I submitted affidavits in the Montana/Nevada matter.

9 THE COURT: Branded, branded Medicare?

10 THE WITNESS: Yes.

11 THE COURT: Doctor-administered drugs?

12 THE WITNESS: I honestly don't remember. It's just
13 been a long time ago. Also, in Connecticut I worked on an AWP
14 case, and that was regarding Medicaid, and that was
15 physician-administered drugs. In addition, I've worked on
16 several of the so-called Paragraph 4 cases. I served as an
17 expert --

18 THE COURT: It's funny, I've been doing this for
19 years, and I'm not sure what that reference is.

20 THE WITNESS: Oh, I'm sorry. A Paragraph 4 case is
21 where a generic company under Paragraph 4 of the Hatch-Waxman
22 Act says they're going to introduce a new -- and then -- okay.
23 So I've worked on those, and I've also worked on two cases
24 involving pharmacy benefit managers, one as a consultant with
25 Express-Scripts and one as a testifying expert with Medco.

1 In addition, I have served for years on -- this may
2 not sound like much, but it's actually a lot, you get a lot of
3 expertise -- on the committee at my college where we vet and
4 select medical insurers and decide what level of care is going
5 to be provided to our employees.

6 Q. Dr. Hughes, have you been trained in the area of
7 statistics?

8 A. Yes, I have.

9 Q. What training have you received?

10 A. I had coursework as an undergraduate and a graduate
11 student in statistics.

12 Q. Are you familiar with a field called "econometrics"?

13 A. Yes, I am.

14 Q. And what is that?

15 A. Econometrics is a field of economics where we apply
16 statistical techniques, generally to uncover trends in data,
17 using multiple independent variables. In other words, there
18 are multiple influences, potentially multiple influences on a
19 variable of interest, and how do you simultaneously evaluate
20 those multiple influences?

21 THE COURT: Have you ever testified in court before?

22 THE WITNESS: No, ma'am. You can tell?

23 THE COURT: That's okay, I like it.

24 THE WITNESS: I'm sorry.

25 THE COURT: That's fine.

1 Q. Have you used principles of econometrics and statistics in
2 your work?

3 A. Yes, I have.

4 Q. How so?

5 A. In all but maybe one of my published works, I have used
6 statistics and econometrics in each of my publications.

7 Q. How many publications are we talking about here?

8 A. I believe it's sixteen total.

9 Q. And have these papers been peer reviewed?

10 A. Yes, they have.

11 Q. Dr. Hughes, what were you asked to do --

12 THE COURT: Any in this field?

13 THE WITNESS: Uhm --

14 THE COURT: By which I mean healthcare economics,
15 reimbursement.

16 THE WITNESS: Right, right, right. Not published, no.

17 Q. Dr. Hughes, what were you asked to do by Abbott
18 Laboratories in this case?

19 A. I was asked to review the submissions and work of
20 Dr. Duggan and to evaluate the reliability and accuracy of his
21 damage estimates -- I'm sorry -- difference estimates.

22 Q. Were you asked to determine whether the methodologies that
23 Dr. Duggan used to compute his difference were appropriate and
24 reliable?

25 A. Yes. Again, as a matter of uncovering whether his

1 estimates were in fact accurate and reliable, that involves an
2 investigation of his methodology as well.

3 Q. In particular, were you asked to opine on Dr. Duggan's use
4 of extrapolation to compute differences in Medicare and
5 Medicaid?

6 A. Yes, I was.

7 Q. And do you understand that Dr. Duggan has performed
8 extrapolation in two ways in the Medicare context and two ways
9 in the Medicaid context?

10 A. Yes, I do.

11 Q. And let's start with Medicare. You understand that he
12 extrapolated both across carriers as well as --

13 THE COURT: Actually, you know what's a little better,
14 since he's been your witness, and it's been what, a month or
15 more, what is your understanding as to what Dr. Duggan did?

16 MR. TORBORG: Your Honor, I think it will help. We
17 prepared some overview slides with regard to his testimony that
18 talk about that very thing, about what he did to try to help --

19 THE COURT: That's fine, but don't forget, it's his
20 testimony. Some degree of leading is okay, it's a Daubert
21 hearing, but at some point I want him to take over.

22 MR. TORBORG: Yes. He prepared some slides because he
23 thought it would help you walk through the methodologies.

24 THE COURT: That's fine.

25 MR. TORBORG: If I may approach?

1 THE COURT: Yes. Do you want to put it on the
2 document camera so we can all see?

3 MR. TORBORG: Sure.

4 THE COURT: Have you played with that? Do you know
5 how to use it?

6 MR. TORBORG: I tried last time with mixed success.

7 THE COURT: And I'm happy to take it too, but that way
8 we literally are all looking at the same thing.

9 (Discussion off the record.)

10 MR. TORBORG: Your Honor, if I may approach?

11 THE COURT: Yes, just Mr. Alba, put it on his desk.
12 He'll give it to me.

13 Q. Dr. Hughes, did you prepare this slide?

14 A. Yes, I did.

15 Q. And what is the purpose of this slide?

16 A. This slide is just to refresh the memory of the Court as
17 to what Dr. Duggan did in the within-carrier extrapolations.

18 Q. Can you walk the Court through again what Dr. Duggan did
19 in his Medicare extrapolation.

20 A. Sure. All right, Dr. Duggan has a Medicare users, the
21 pricing arrays for generic drugs by J-Code, and Dr. Duggan had
22 a handful of the actual arrays from four of the forty some
23 carriers. What he does with the arrays that he has is, he
24 substitutes his but-for AWP into the array and determines what
25 the new median would be; and then the difference that he

1 assesses as damage is the difference between the original
2 median and the new median.

3 THE COURT: What percentage of the Medicare
4 prescriptions are accounted for in these four carriers?

5 THE WITNESS: I don't remember that number.

6 THE COURT: Are they the big carriers?

7 THE WITNESS: Cigna is certainly a big one. They are
8 the among the big ones, but I don't know the number of what
9 percentage are covered by these arrays.

10 THE COURT: So that should make some difference,
11 right?

12 THE WITNESS: To what? To the accuracy of his
13 extrapolations? No, not really. The size of the sample does
14 not speak to the reliability of the sample. Would you like me
15 to keep going?

16 THE COURT: If you want.

17 THE WITNESS: Oh, I'm sorry, I'm not used to this.
18 Okay, so --

19 THE COURT: This is a little bit more informal than it
20 will be in court, if we get that far.

21 THE WITNESS: Okay, thank you very much.

22 So once he has the difference for a particular claim,
23 he sums all of those differences across the J-Code for that
24 carrier; and he takes that aggregate difference, divides it by
25 the total amount that was paid by that carrier for that J-Code

1 in that quarter; and that ratio is what he calls the "ratio of
2 difference" for that particular carrier in that particular
3 J-Code. I'm sorry, I said by quarter. He takes the aggregate
4 difference across all the quarters for which he has arrays for
5 this carrier and all of the expenditures across which he has
6 arrays for this carrier. That's the ratio of difference. So
7 there's one number then that he multiplies by the carrier's
8 expenditures in the other quarters to get the extrapolated
9 amount for those quarters where he doesn't have arrays for that
10 particular carrier, and that's the extent of his within-carrier
11 extrapolation.

12 Q. Dr. Hughes, have you also prepared a slide that sets forth
13 the steps Dr. Duggan took in his across-carrier extrapolation?

14 A. Yes, I have.

15 Q. I'll put that on the screen.

16 MR. TORBORG: Your Honor, it's the next document in
17 the packet.

18 A. Okay, so here he does for each of the carriers for which
19 he has arrays --

20 THE COURT: Here it says seven. Was that a mistake
21 before when you said four?

22 THE WITNESS: No. It's one of the little bits of
23 unclarity here is, he has four unique arrays, meaning four
24 times that somebody was sitting down and actually calculating
25 an array. There were three other carriers where Dr. Duggan

1 believed that these other three carriers used the arrays that
2 had been constructed by WPS.

3 THE COURT: They're derivative of them?

4 THE WITNESS: Correct, correct. So it is seven in
5 total where there's the arrays that were used by the carrier
6 out of forty some carriers.

7 So he calculates the total difference for each of
8 these time periods, and he calculates an overall
9 carrier-specific ratio of difference. And then he takes for
10 each carrier, he takes the straight average of these ratios.
11 And, again, there's only one number that comes from the WPS
12 arrays because he takes a weighted average of the four of the
13 seven carriers that use the WPS arrays.

14 THE COURT: WPS is a carrier?

15 THE WITNESS: WPS is a carrier, Wisconsin Physician
16 Services, yes.

17 Now, once he has this ratio of difference, Dr. Duggan
18 scales this average ratio down, in recognition that he found
19 what he believed to be an Abbott AWP was the allowed amount
20 less frequently, 18 percent of the time, for those carriers
21 where he didn't have arrays, compared to the frequency with
22 which he found what he believed to be an Abbott AWP as the
23 allowed amount in the carriers where he did have arrays, and in
24 that case it was 24 percent. So he scales his average ratio of
25 difference down by the fraction 18 over 24, which multiplies it

1 by .75, so he's reducing the average ratio of difference by
2 25 percent. And then he takes this one number, and he applies
3 that to the other carriers' expenditures across all of the 1993
4 to 2001 time period for all of the carriers. The extrapolation
5 ratio is one single number.

6 Q. Dr. Hughes, I wanted to take a minute to follow up on .4.

7 A. Yes, sir.

8 Q. The scaling factor?

9 A. Uh-huh.

10 Q. The 18 percent figure you said represents the percentage
11 of time that the payment amount in the other carriers for which
12 he does not have arrays had a reimbursement that matched an
13 Abbott price; is that right?

14 A. That's correct.

15 Q. Does that percentage tell us anything about the impact of
16 changing the Abbott AWP for those carriers on what the price
17 would have been?

18 A. No. The presence of an Abbott AWP doesn't tell us
19 anything about what the actual difference would be if that
20 Abbott AWP were replaced with his but-for price. This is a
21 very important point, is that the differences, per-claim
22 differences that are calculated when he has arrays, that
23 difference is driven by two things: first, the Abbott price
24 being present in the array, which he then replaces with his
25 but-for AWP. But the other thing that the difference crucially

1 depends on is what else is in the array -- what other
2 manufacturers, what other products, how many, who else is in
3 there? -- because when the Abbott AWP is replaced with his
4 but-for AWP, the median will fall, the median will fall to some
5 other manufacturer's submitted price for some other product,
6 some other period. That price can be all over the place.
7 There's great variation. There was no regulation that I'm
8 aware of from CMS to the Medicare carriers as to how they were
9 to construct these arrays.

10 THE COURT: You can just go down to the next price,
11 right?

12 THE WITNESS: Well, you have an array. Basically the
13 Abbott price goes from above the median.

14 THE COURT: To below, so then you come down just one?

15 THE WITNESS: Depending --

16 THE COURT: I mean, I'm not talking about every
17 time -- we don't have to do that, right? -- but typically it
18 would come down to the next lowest one, right?

19 THE WITNESS: Yes, unless there's multiple Abbott
20 products in the array or something like --

21 THE COURT: All right, typically -- I don't have to
22 have it a hundred percent accurate -- typically, right, it
23 would go down one?

24 THE WITNESS: Yes.

25 THE COURT: So what are you saying he did wrong in

1 trying to estimate what that one was?

2 THE WITNESS: Well, that's just it, he has no
3 information on what that one is where he doesn't have the
4 array.

5 THE COURT: Why wouldn't it typically be what was true
6 in the other carriers?

7 THE WITNESS: Because there's no information stating
8 that what the next one down was in the arrays that he did have
9 would also be the next one down in the arrays that he didn't
10 have. In the arrays that he did have, there was substantial
11 variation in the number of drugs that were in the array --

12 THE COURT: But what's substantial variation because I
13 know we're talking pennies here? So I'm just trying to
14 understand. They all clustered -- I mean, I've seen these
15 numbers before -- within tiny amounts, right?

16 THE WITNESS: Not always, no.

17 THE COURT: So what do you say is not a tiny amount?

18 THE WITNESS: Well, here's what I'm saying, is that
19 you can do the same exercise with two arrays on the same drug
20 in the same time period with two different carriers.

21 THE COURT: Okay.

22 THE WITNESS: And his methodology for one carrier
23 might give you \$10 of difference, and another one might give
24 you \$3 of difference. It all depends on what else is in the
25 array and where the Abbott one sat, you know, so on and so

1 forth.

2 THE COURT: SO you actually looked at it, and there
3 were differentials that big in a typical way?

4 THE WITNESS: Yes, I have.

5 THE COURT: Not in an idiosyncratic way?

6 THE WITNESS: Could you clarify for me what you mean
7 by idiosyncratic. I'm not --

8 THE COURT: I'm not a statistician; you are. If there
9 was one outlier or two outliers that did that, I'm not as
10 worried about it as if it were typically that big.

11 THE WITNESS: It's typically that big.

12 THE COURT: And you've done that analysis? Is that in
13 here where you've done it where it's typically that big?

14 THE WITNESS: Well, I have examples, yes.

15 THE COURT: Okay, so I'm assuming you'll get to them.

16 MR. TORBORG: We will. We can do it right now, since
17 we're thinking about it.

18 Q. Dr. Hughes, would you flip to Tab 34.

19 A. Yes, that's just what I was going to do, Tab 34.

20 Q. Dr. Hughes, does this slide illustrate the point you were
21 trying to make about the variability and the impact of changing
22 Abbott's price from one way to another?

23 A. Yes, it does.

24 Q. Can you walk us through this.

25 A. Certainly. Okay, first of all, I should say that this is

1 a pricing array for J-Code 70-50, sodium chloride, the largest
2 damage -- one of the larger damage drugs in the case.

3 The top panel is a pricing array from Cigna. I took these
4 pricing arrays directly from Dr. Duggan's submission, from his
5 report. And in the top pricing array you can see that Cigna
6 included three products, three versions of sodium chloride --
7 one from Abbott, one from Braun McGaw, and one from Baxter --
8 and the prices you can see are \$11.61, \$10.69 and \$9.11.

9 THE COURT: That's what was actually charged?

10 THE WITNESS: That's what was -- yes. Well, no, I'm
11 sorry. That's the AWP. That's the reported price by the
12 companies.

13 THE COURT: Right.

14 THE WITNESS: And then that's what was paid, yes,
15 okay.

16 THE COURT: That was the reported prices, and then the
17 array calculated \$10.69, which is the middle one.

18 THE WITNESS: I understand. I'm sorry, your Honor.
19 It's just, you know, what was actually paid is kind of a big
20 issue in this case, so I wanted to make sure we were talking
21 about the same thing. I'm sorry.

22 THE COURT: That's completely appropriate.

23 THE WITNESS: Okay. Yes, so Medicare actually in this
24 case would pay \$10.69, the median price in that array.

25 Dr. Duggan removes the \$11.61 and replaces it with his

1 but-for AWP in the array, which was a dollar something, if I
2 recall correctly. And so now the array would be \$10.69, \$9.11,
3 and a dollar something. So the new median would be no longer
4 \$10.69 but \$9.11, a decrease of 40 cents or so. And, as I say
5 below, it's a 14.8 percent, call it 15 percent decrease in what
6 Medicare paid through Cigna.

7 The second panel is the same product, the same period.

8 THE COURT: So far, you have no problems with what
9 he's done?

10 THE WITNESS: Oh, I have -- for the purposes of this
11 hearing? No.

12 THE COURT: In other words, he's done the math right,
13 he's done the median right and that sort of thing?

14 THE WITNESS: That sort of thing. The but-for AWP I
15 have a huge problem with, but that's for trial, that's not for
16 here.

17 In the bottom panel is the WPS array, the same period,
18 the same drug, different carrier. Six products, three of them
19 are Abbott products. Then there's the Braun and Baxter. And
20 you can see that the prices match up with the Cigna array, so
21 it's not a matter of different reporting or anything else. So
22 since there's an even number, the actual median that WPS used
23 was the average between the middle two observations, which were
24 the ones marked with an X, \$11.61 and \$10.69; and as you can
25 see below, that average was \$11.15.

1 Dr. Duggan then replaces the three Abbott AWP's with
2 his three calculated but-for AWP's, and, again, all of those are
3 approximately a dollar or maybe a little bit more. So now the
4 array is going to be \$10.69, \$9.67, \$9.11, and three prices
5 that are about a dollar.

6 The new median will be the average between \$9.11 and
7 something that's about a dollar. And that comes out, you can
8 see at the bottom the new median was \$5.82. And that's an
9 almost 50 percent decrease in the median price and yields a
10 much larger difference, \$5 and something, compared to the Cigna
11 array which yielded only a 15 percent decrease.

12 So, again, here's the problem with this: These
13 pricing arrays vary greatly in their content, and so when you
14 swap out the Abbott prices with but-for Abbott prices, what the
15 median changes to can vary widely across time, can vary widely
16 across carriers. And the difference calculation that he is
17 assessing as damage depends crucially not only on the Abbott
18 product being in the array, but it depends crucially on what
19 else is in the array. And that's the problem with his
20 extrapolations here within carrier or across carriers: He has
21 no idea what else other than the Abbott product is in the
22 pricing array.

23 THE COURT: Now, if he took the Cigna and extrapolated
24 it, that would actually be to Abbott's benefit, right, because
25 this would be a much bigger drop?

1 THE WITNESS: It would depend on the number of claims,
2 but I -- I don't -- he extrapolates from this to periods where
3 he doesn't have the Cigna arrays, yes.

4 THE COURT: I'm just simply saying, there's a huge, a
5 much bigger damage number from the WPS than from the Cigna.

6 THE WITNESS: Uh-huh.

7 THE COURT: So if he's extrapolating from the Cigna,
8 that's the more modest extrapolation, the more conservative
9 one?

10 THE WITNESS: For this particular product in this
11 particular period, yes, but it's going to be different in other
12 periods and other drugs.

13 Q. Is he also extrapolating from WPS?

14 A. He's also extrapolating from WPS, and that's a very large
15 difference, and, I'm sorry, I just can't tell you what the
16 difference is between the number of claims handled by WPS and
17 the number of claims handled by Cigna.

18 Q. Dr. Hughes, is this an example of the variability that you
19 cherry-picked for this hearing, or is this variance in the
20 impact of Dr. Duggan's prices systematic?

21 A. I believe it's systematic. This particular one, again,
22 was taken from his own report.

23 Q. Have you included another example of this kind of
24 variance?

25 A. Yes, two more actually. If you go to Tab -- start with

1 35-A. So --

2 THE COURT: Do you remember what carrier this is?

3 THE WITNESS: Yes. It's at the bottom. This is
4 Metra Health.

5 THE COURT: There it is. Thank you. And is this one
6 of the four carriers he extrapolated from?

7 THE WITNESS: Yes. These are --

8 THE COURT: Is this large?

9 THE WITNESS: Large?

10 THE COURT: Is it a large carrier, one of the big
11 ones?

12 THE WITNESS: I don't know the percentage of claims,
13 I'm sorry. Again, very quickly, it's the same sort of thing
14 happened. These are materials that came from Dr. Duggan's work
15 product. This had been done for him by Myers & Stauffer. And
16 so in the top panel is the original array where the median
17 price would be \$9.55, and you can see below, the revised array,
18 the \$9.55 for the Abbott product is replaced by the \$1.26 that
19 Dr. Duggan calculates, and that causes the median to move to
20 \$4.96. So it's a decrease from \$9.55 to \$4.96, a difference of
21 about four and a half dollars, and it's roughly 50 percent of
22 the -- a little bit less than 50 percent of the original median
23 AWP.

24 If you turn to Tab B -- and I also should mention
25 we're still on J-Code 70-50, so this is still saline. Another

1 example from Metra Health: In the top panel, the original
2 median AWP paid by Medicare is \$10.03. When he replaces the
3 Abbott \$10.03 price with his but-for price of \$1.18, the median
4 now falls from \$10.03 to \$9.67, a difference of 36 cents, or
5 only about 3 1/2 percent. So this is the same drug, the same
6 carrier, but only a year later. The first one, Tab A, is 1996.
7 The second tab, Tab B, is 1997. So in one year for the same
8 carrier for the same drug, you have almost 50 percent
9 difference that's calculated. A year later you have only a
10 3 1/2 percent difference that's calculated.

11 And the point that I think the Court needs to
12 understand here is that he's combining these and then
13 extrapolating to periods where he doesn't have the Metra Health
14 arrays, and this kind of variation suggests strongly that these
15 extrapolations are just not going to be valid because the size
16 of the difference depends crucially on what else is in the
17 array, and without that information, you just -- without that
18 information and with this example seeing that it doesn't stay
19 the same from time period to time period, that these
20 differences will change within a carrier over the course of a
21 year, then how can you say, "Oh, well, this is totally
22 representative. I can go and extrapolate to other periods for
23 this same carrier because it's all going to be the same"?
24 Well, it's not always all going to be the same, and that's why,
25 I believe, that this type of within-carrier extrapolation is

1 highly inaccurate and unreliable.

2 THE COURT: Have you yourself done any analysis of the
3 numbers?

4 THE WITNESS: Yes, not -- I haven't done any
5 extrapolations or anything like that, no.

6 THE COURT: Your view fundamentally is that any
7 extrapolation at all, within carrier, outside of the carrier,
8 is not reliable, any extrapolation?

9 THE WITNESS: Well, let me be clear. I believe that
10 the extrapolations within carrier and across carrier that
11 Dr. Duggan performed are indeed inaccurate and unreliable. Is
12 it possible to do a good extrapolation? Certainly, absolutely.
13 If you have a random representative sample and you take a
14 sample that is representative of the underlying population,
15 adjusting it however one has to adjust it to insure that
16 representativeness, it's certainly possible to do a reliable
17 extrapolation. But when you --

18 THE COURT: Do you think that in some circumstances
19 nonrandom samples are big enough that they can be
20 representative?

21 THE WITNESS: No, absolutely not.

22 THE COURT: So under no circumstances is a nonrandom
23 sample -- no number of claims, a million, two million, nothing
24 is big enough?

25 THE WITNESS: Well, no, it's not because, again, the

1 size of the sample has nothing to do with the representativeness.
2 Let me see if I can give you an example.

3 THE COURT: No, I understand that, but suppose you had
4 a sufficiently large sample, and there was some testimony that
5 it was representative, that it's not random, can you
6 extrapolate from that?

7 THE WITNESS: It would depend on what the testimony
8 were that it were representative, okay?

9 THE COURT: All right, so you're the statistician. In
10 some circumstances, you don't need a random sample, but what
11 I'd need is a really good foundation that it was indeed
12 representative?

13 THE WITNESS: Let me give you an example.

14 THE COURT: Is that right?

15 THE WITNESS: Yes. Let me give you an example of when
16 something like this might work. Suppose Medicare had operated
17 differently than it in fact did, and suppose that Medicare,
18 CMS, had promulgated regulations that said, "Okay, carriers,
19 here's how you construct an array. You need this many
20 manufacturers. You need this many manufacturers, you need
21 this, you need to do this," and maybe even specify, "Not only
22 do you need five manufacturers, you need the five biggest." So
23 that it all ends up that everybody is picking the same
24 manufacturer, everybody is picking the same products, and
25 everybody is basically constructing their arrays in very, very

1 similar fashions.

2 And then when you look across a small nonrandom sample
3 of the arrays that you have in that situation and you calculate
4 the difference the way Dr. Duggan does, they come out either
5 exactly the same or very, very close to being the same, all
6 right? And so in that situation you look at that, and you take
7 the CMS regulations, and you say, okay, everybody's supposed to
8 be doing pretty much the same thing, so these arrays across
9 time and across carriers should look pretty much the same. And
10 indeed when I do the difference calculations, the differences
11 come out to be pretty much the same, so I have some reason to
12 believe that the assumption that these other arrays that I
13 don't have are going to look just like the ones that I do have
14 would be much better founded, and I probably wouldn't be
15 sitting here in a Daubert hearing if the world had worked that
16 way.

17 But when you just have the -- I mean, to call this is
18 a sample is statistically ludicrous. It's the arrays that
19 happened to be lying around. It's the arrays that happened to
20 be available. It's a small sample. Sorry, I don't even want
21 to use -- it's a small set of the overall universe population
22 of arrays. So to just then say, "Well, I'm going to use this,
23 and I'm not going to make any adjustment to it because I don't
24 have the information to make any adjustment to it, but I am
25 going to proceed and pretend like this is a random

1 representative sample and I'm going to conduct my
2 extrapolations," my point is that he has no basis for making
3 that assumption. There is no testimony that I'm aware of,
4 there's no regulation that I'm aware of that says this is why
5 we should believe that the arrays that he does have are just
6 like the arrays that he doesn't have, because when you look at
7 the arrays that he does have, they're not all that similar.

8 Q. Dr. Hughes, is there a name for the type of sample that
9 Dr. Duggan used, both in his within-carrier extrapolation and
10 his across-carrier extrapolation?

11 A. Yes. We refer to that as a convenience sample.

12 Q. And do you believe that using a convenience sample for the
13 task at hand here was appropriate?

14 A. No, as I've just explained, I don't believe it was.

15 Q. Now, we've gone through a couple of examples of the
16 variability in arrays, one across carriers, one within a
17 carrier. Have you done anything else to assess the variability
18 of the impact of Dr. Duggan's calculations when he does have
19 arrays?

20 A. Yes, I have.

21 Q. Okay. I ask you to go to Tab 37.

22 THE COURT: Just for the record, in those tabs you
23 just did, PAR is the same as median, if you see where I just
24 went? You kept referring to median, but I think -- maybe I'm
25 wrong. The PAR designation?

1 THE WITNESS: I couldn't tell you. I was simply
2 using --

3 THE COURT: You were just simply doing your own
4 median?

5 THE WITNESS: No. Right above where you're looking it
6 says "PAR," right above that it says "Allowances," right above
7 that it says "Median AWP"?

8 THE COURT: Yes.

9 THE WITNESS: And that's the number that Dr. Duggan
10 used, and that's the number that I'm referring to.

11 THE COURT: All right.

12 MR. TORBORG: Your Honor, if I can clarify.

13 THE COURT: What is PAR?

14 MR. TORBORG: PAR and non-PAR refers to participating
15 providers and nonparticipating providers. That's all it means.
16 The median AWP that Dr. Duggan used --

17 THE COURT: The median ones that are participating?

18 MR. TORBORG: Correct.

19 THE COURT: So who are the nonparticipating? How do
20 we even have a median? I'm just -- maybe it's not important,
21 but -- do you know?

22 MR. HENDERSON: If my memory serves me correctly, your
23 Honor, carriers paid participating providers slightly different
24 than nonparticipating providers when you talk about healthcare
25 providers.

1 THE COURT: All right, all right, so it's irrelevant
2 to my --

3 MR. HENDERSON: It's irrelevant.

4 THE COURT: Good. Strike it from my thought process.

5 Q. Dr. Hughes, have you found Tab 37?

6 A. Not yet. Sorry. Yes.

7 Q. Is this a graph that you prepared?

8 A. It was a graph that was prepared by HealthScape at my
9 direction.

10 Q. And what is the title of this slide?

11 A. "Dr. Duggan's calculations demonstrate there is no
12 consistent pattern across carriers in the impact of his revised
13 prices for J-Code 70-50," which is the J-Code with the majority
14 of difference.

15 Q. And across the left-hand side is something called
16 "Duggan's paid DIFF-FRAC"?

17 A. Right.

18 Q. What is that?

19 A. Dr. Duggan's paid DIFF-FRAC is that difference ratio that
20 we were just talking about.

21 Q. So that is, just to clarify, the percentage that spending
22 would decrease for a given carrier array by substituting in his
23 new price?

24 A. Yes, that's correct. Basically think of it as the
25 percentage damages that he's assessing, yes.

1 Q. And then if you look at the horizontal axis at the bottom,
2 there are six quarters?

3 A. Yes, there are.

4 Q. Why did you focus on those six quarters?

5 A. Well, because I was seeking to demonstrate what the
6 pattern or lack of pattern was across carriers, I picked those
7 six quarters because those are the only -- excuse me -- those
8 are the only quarters where he has data from all four carriers,
9 where he has the pricing array from all four carriers.

10 Q. And then we have a legend on the right. Does that list
11 the four carriers, the four Medicare Part B carriers for which
12 Dr. Duggan has unique arrays?

13 A. That's right, those are the four for which he has unique
14 arrays, and then another three use the WPS arrays and so would
15 not, if you put them on the graph, they wouldn't be any
16 different from WPS.

17 Q. So what does this chart tell us?

18 A. This chart tells us within quarter across carriers, if you
19 just look at Q-1 '97, for example, the difference that he
20 calculates can range from just under 50 percent to -- in that
21 case, it's Other Metra Health, the gray triangle -- from just
22 under 50 percent to just a fraction above zero, which was the
23 calculation for WPS.

24 The difference across carriers in the calculated ratios
25 gets wider still, and so these are these highly variable

1 numbers that he is massing together into a single measure, and
2 then using that number to extrapolate to those carriers for
3 which he doesn't have --

4 THE COURT: He's averaging, right?

5 THE WITNESS: Yes, he is.

6 THE COURT: So where would his average be?

7 THE WITNESS: The average -- I mean, I don't have the
8 average on here.

9 THE COURT: Somewhere in that white space in between
10 the, like, in the 20 to 30 percent range?

11 THE WITNESS: Well, it would depend. He takes a
12 straight average, so, yeah, it probably -- when he's
13 extrapolating across carriers, he takes a straight average
14 unweighted, so, yes, it would be in the 20, 30, maybe sometimes
15 up to 40.

16 THE COURT: Is that more conservative than if you
17 weighted it?

18 THE WITNESS: It would depend on what the weights are.
19 I don't know the answer to that.

20 THE COURT: WPS, which is obviously on the high side,
21 is that a smaller --

22 THE WITNESS: Again, I apologize. I should have been
23 prepared with that information, but I don't have it at my
24 fingerprints.

25 Q. Dr. Hughes, are you familiar with the statistical concept

1 called "non-sampling variation"?

2 A. Yes, I am.

3 Q. And have you placed something in the binder to help the
4 Court understand what that is?

5 A. Yes, I have. I believe it is, yes, at Tab 3. This is a
6 book, an excerpt from a book called Statistics for Lawyers,
7 which in my work --

8 THE COURT: An exciting sequel, a page-turner?

9 THE WITNESS: Well, you know, as a teacher, I have to
10 say this is extremely readable compared to the statistics
11 textbooks that I might use for my work. So this was introduced
12 to me a few years ago by attorneys, and I've actually used it
13 with students because it is actually written fairly clearly, so
14 kudos to the authors.

15 THE COURT: Do you know who the author is? Maybe we
16 have it in our library.

17 THE WITNESS: Yes, it's on the facing page here.
18 Finkelstein and Levin.

19 THE COURT: It's not you, right?

20 THE WITNESS: Not me.

21 MR. LAVINE: No.

22 THE WITNESS: The part on non-sampling variability is
23 on Page 261, which is actually the next-to-the-last page.

24 THE COURT: On which tab?

25 THE WITNESS: Tab 3.

1 MR. TORBORG: Tab 3.

2 THE WITNESS: And while you're getting there, the
3 first paragraph and a half sums up much of my objection to what
4 Dr. Duggan has done, and it's probably best just to read it
5 first: "In practice, sampling variation is rarely the only
6 source of variability." So sampling variation is when you go
7 to a population and take a sample, even when you do it in a
8 completely valid fashion, there's going to be variation from
9 one sample to the next. But that's not what we're talking
10 about here.

11 "The other principal sources of variability are, first
12 of all, defects in the sampling frame involving incomplete or
13 inaccurate enumeration of the target populations." Well,
14 that's a mouthful, so a sampling frame is simply the method or
15 the -- well, the frame, the how are you going to -- the
16 methodology of how you're going to actually select the sample.
17 So if your sampling frame is flawed in some way, that you had a
18 sampling frame that will result in you pulling a sample that's
19 not in fact representative of the population, you can pull the
20 sample just fine, but because of the defect in the frame, the
21 sample will not be valid. I point out here that Dr. Duggan had
22 no sampling frame at all. I mean, he used whatever Medicare
23 pricing arrays were provided to him by the government.

24 "Second, defects in the method of selection that
25 result in unequal probabilities of selection." Again, for

1 sampling, the idea is that every observation has to have an
2 equal probability of appearing in the sample. For the 30 some
3 carriers for which he has no arrays, they had no chance of
4 being in the sample whatsoever, so that it's not going to
5 rescue his sample because the majority of carriers had no
6 chance of being in the sample.

7 "Three, defects in the collection of data from the
8 sample," well, again, the pricing arrays that we have, I don't
9 have any basis to think that they're in any way inaccurate
10 representations of what the carriers actually used, but, again,
11 he's got a mere handful relative to the potential number of
12 carrier arrays.

13 But the second paragraph is what I've kept coming back
14 to your Honor with is that "A common misconception is that a
15 sample's precision depends on its size relative to the size of
16 the population. Samples that are a tiny fraction of the
17 population do not provide reliable information about that
18 population." So in that last phrase, remember, the authors are
19 saying that's a common misperception that tiny fractions of
20 populations do not provide reliable information.

21 The more correct view is that "If a population can be
22 sampled correctly, the precision of the sample depends
23 principally on the variability of the population and to a
24 lesser extent on the sample size." So again, this was my
25 example: If we had reason to believe that the Medicare

1 carriers all were following the same rules in constructing
2 their arrays regarding the number of manufacturers in the array
3 and the identity of the manufacturers and the identity of the
4 products in the array, then it could well be, if you were to
5 see small variability in the convenience sample that Dr. Duggan
6 did, that information combined with the information that "Well,
7 look, everybody was doing pretty much the same thing," would
8 lead you to say, "Okay, this could be a reliable sample, even
9 though it's not random."

10 But, as I say, the precision of the sample depends
11 principally on the variability of the population. What we see
12 from what he has shows a high degree of variability. It
13 doesn't show any sort of great consistency, and Dr. Duggan is
14 always using words like, "Well, they're really very similar,
15 and they're really very much alike, and the data are very
16 complete," and he's using all of these qualitative unscientific
17 standards to justify what he's done without providing any
18 statistical information about the accuracy of what he's done.
19 When you've got this kind of variability in the population, the
20 precision of his estimates, in my opinion, just cannot be
21 relied upon. They're just not accurate; they're just not
22 reliable.

23 Q. Dr. Hughes --

24 THE COURT: Have you looked at any of these outlier,
25 these 30 carriers to see if you took a -- I agree there's a

1 huge amount of variability. You've shown that. It's hard to
2 figure out if that's typical or you picked outliers. I don't
3 know that. But let's assume for a minute there is. Why isn't
4 taking an average of the four, if they're large, large samples,
5 why isn't that a fair predictor?

6 THE WITNESS: Well, that's exactly the point. If the
7 sample were random, it would be a fair predictor.

8 THE COURT: Let's say it's huge. Let's say big
9 states, New York, Texas, Illinois, they're huge. Let's
10 assume -- I don't know sizes -- let's say very large, and there
11 is variability, and you acknowledge that, and you take an
12 average, why wouldn't that be predicting what would happen in
13 the other 30 carriers?

14 THE WITNESS: Because the sample that --

15 THE COURT: Intuitively that seems okay if you average
16 and you don't take one. Why is that wrong?

17 THE WITNESS: If you average and you don't take one of
18 what?

19 THE COURT: In other words, you're just not taking
20 Cigna or just taking --

21 THE WITNESS: Oh, I see what you're saying. Again --

22 THE COURT: What did you say, the WPS?

23 THE WITNESS: If you did that from a valid sample,
24 that would be fine. But if you're just taking the average over
25 the biggest ones, that doesn't say anything about -- you

1 still -- that doesn't cure the fact that you don't know that
2 those biggest ones are anything like the smaller ones.

3 THE COURT: Well, have you look at these other
4 carriers to see that they're not?

5 THE WITNESS: Again, your Honor, this is my basic
6 criticism. Dr. Duggan, nor I, have the data to do what you're
7 supposed to do to calculate valid extrapolations. I can't look
8 at the arrays of the other carriers because the government says
9 they're not available, and I have no other access, independent
10 access to them. So if they don't exist, they don't exist. So
11 Dr. Duggan can't check them, I can't check them, but that's the
12 whole point is that the data are not there to do the job that
13 he's trying to do.

14 And let me just be blunt. The mean from an invalid
15 sample is itself invalid. The mean is supposed to be -- the
16 mean is what we call in statistics an unbiased estimator --
17 excuse me, let me try again. The sample mean is an unbiased
18 estimator of the population mean, but only from a valid
19 representative random sample, only in that case, okay.

20 Let me see if I can illustrate this with another --
21 I'll be very quick -- example. We're talking about Medicare
22 and not Medicaid, but, okay, we've got 50 states. Let's take
23 an example. You've got 50 people in a room, and these people
24 are from all walks of life. That's your population. And you
25 want to know something about that population. Let's say we

1 want to know what their average expenditure on food was last
2 year. So if you went into that room, polled 10 or 15 people
3 randomly, maybe according to some other information that you
4 know to stratify your sample or whatever it was, or just went
5 in there and had people draw things out of a hat, take them
6 aside, say, "Okay, what did you spend on food last year?" take
7 that average, if you just did it randomly like that, then we
8 would say in statistics that that sample mean is an unbiased
9 estimator of the population mean.

10 THE COURT: Not if you walked into Neiman Marcus,
11 right? I mean, it all depends.

12 THE WITNESS: Okay, fine, let me finish. Hopefully
13 I'll make my point. Suppose instead I went into the room, and
14 I picked out the 40 richest people in the room or the 45
15 richest people in the room. I take them and I say, "What was
16 your expenditure on food last year?" I take that average, and
17 now I'm going to do -- and this is precisely what Dr. Duggan
18 does -- I'm going to take the 40 richest people and I'm going
19 to use their average expenditure on food last year, and I'm
20 going to use that to predict what the expenditures were for the
21 10 poorest people in the room. Now, clearly that makes no
22 sense.

23 THE COURT: So we go back to your core thing as to
24 whether or not these carriers are representative.

25 THE WITNESS: Correct.

1 THE COURT: So it is possible to take the average if
2 they're representative?

3 THE WITNESS: If this constitutes a valid sample, if
4 this constitutes a valid sample. But everything, every single
5 thing about how this sample was created -- and I'm sorry, I'm
6 doing --

7 THE COURT: Well, it actually wasn't created. It was
8 what data there was. I mean, it wasn't --

9 THE WITNESS: Which, statistically speaking, is not a
10 sample at all. It's a group of carriers. And I don't mean to
11 be flip, but, you know, it's you're sweeping the floor, and you
12 use what you got off of the floor. I mean, there was no -- as
13 far as I know, there is no systematic way with which the time
14 periods from which these arrays were chosen, nor the carriers
15 from which these arrays were chosen, there was no sampling
16 frame. It's just what was lying around. And so there is no
17 statistical basis -- and Dr. Duggan provides none -- there is
18 no statistical basis for saying that this is a representative
19 sample. However, he goes ahead and acts as if it was a
20 statistically valid sample. And the only assurance that he can
21 give the Court is, at the end he says, "Oh, I'm really, really
22 confident my estimates are really, really accurate." That's
23 not a scientific -- that's not a statistical measure at all.
24 It's a subjective measure. Only he knows whether or not it's
25 good enough or it's not good enough.

1 I mean, your Honor, in Medicare and Medicaid,
2 Dr. Duggan is saying to you, in terms of the accuracy of his
3 estimates, he's saying "Trust me." That's the extent to which
4 you have any assurance of the accuracy of any of his
5 extrapolations. That is not, to me as a professional
6 economist, that is not an acceptable standard. That is not a
7 scientifically valid sample. I would not accept a paper, a
8 senior thesis from a student -- yes, I'm at a liberal arts
9 college, and I apologize for that, but I would not accept a
10 paper from a student that performed a statistical analysis, and
11 at the end of it said nothing more than, "I'm really confident
12 that these are accurate, Professor Hughes, because I did a
13 whole lot of work on it." And that's exactly what he's asking
14 the Court to do. "I used a lot of data, and I did a lot of
15 work on it. I'm not providing you with any statistical
16 measures of the accuracy of my estimates, but I think, because
17 I did all this work and I used all this data, I think that
18 they're really, really accurate." I wouldn't take a paper from
19 a student for that. I would be stunned if Dr. Duggan would
20 accept a paper from a student at the University of Maryland
21 like that. I would be stunned to find any reputable academic
22 economic journal that has no other measure in it about the
23 accuracy of the statistical estimates than, "We're really good
24 economists who wrote this paper, and we have a lot of
25 experience, and we did a lot of work and we used a lot of data,

1 and so we think our estimates are accurate." I mean, if they
2 want to produce one, fine, I'll have a look at it, but I would
3 be stunned to find that any journal would accept such a thing.

4 It is the most basic, fundamental point of any
5 statistical -- two points of any statistical estimate: How
6 does your sample relate to the population? Is your mean an
7 unbiased estimator of the population mean? Yes or no. And
8 it's not going to be one hundred percent correct, but what's
9 the bounds on it? Dr. Duggan is giving the Court a point
10 estimate, \$106 million. "I've done all this data, I've done
11 all these things, \$106 million." He's not saying plus or minus
12 20 percent. He's not giving you the opportunity to say that's
13 good enough based on accepted statistical standards.

14 THE COURT: So would it make a difference to you if
15 these carriers represented 5 percent of the population as
16 opposed to 60 of the population -- I don't mean population --
17 the claims, the claims database?

18 THE WITNESS: That would make no difference
19 whatsoever. Just, you know, let me follow up with that. That
20 would make no difference whatsoever, and even let me put it
21 different. If the carriers and the arrays had been selected
22 properly from the population of arrays, and we had a valid
23 statistical sample, and they only represented 5 percent of the
24 claims, I would be okay with that. If you have whatever is
25 lying around -- and we have no idea of how what's lying around

1 relates to what's not lying around -- I don't care if you have
2 60 or 70 percent, I am not going to accept --

3 THE COURT: Ninety percent?

4 THE WITNESS: Well, I'll give you the bound. If you
5 have 100 percent --

6 THE COURT: Statistics for Lawyers, what if it's
7 90 percent?

8 THE WITNESS: Like it says in the book here, "A common
9 misconception is the sample's precision depends on its size."

10 THE COURT: No, I'm asking you 90 percent, you have
11 90 percent of the data.

12 THE WITNESS: If you had 90 percent of the data, what?
13 Would the mean be representative of the mean for the other
14 10 percent? There's no reason to believe that. If you have --

15 THE COURT: All right, so you're really taking a
16 pretty hard-line position here, that you need 100 percent of
17 the data.

18 THE WITNESS: No. Any statistician would say the same
19 thing. Now, if you have 90 percent of the data -- remember,
20 what we're talking about here is extrapolation.

21 THE COURT: Right, so if you have 90 percent of the
22 data across the United States of America, it's not random, it
23 is, as you said, what was swept up, what we happen to have --

24 THE WITNESS: Right.

25 THE COURT: And you say you can't extrapolate into the

1 other 10 percent?

2 THE WITNESS: No. Why should you? Take --

3 THE COURT: All right, that's your position.

4 THE WITNESS: Yes, that is, your Honor.

5 Q. Dr. Hughes, I wanted to go back to the last sentence you
6 read from the Statistics for Lawyers book.

7 A. Yes.

8 Q. It states, "The precision of a sample depends principally
9 on the variability of the population, to a lesser extent on the
10 sample size, and perhaps, most importantly, on the avoidance of
11 defects that create non-sampling variation."

12 A. Correct, and that's what --

13 Q. In Dr. Duggan's Medicare extrapolation, does he have
14 defects that create non-sampling variation?

15 A. Absolutely, and that's what I talked about before; the
16 absence of a sampling frame, the absence of any sampling
17 methodology, the use of a sample of convenience without any
18 analysis or assurance that the results from that convenience
19 sample are at all representative. And, your Honor, I'm not --
20 again, if you have my room with 50 people in it, take 45 of the
21 richest ones, take 45 nonrandom, you take the 45 richest ones,
22 that's not going to be an unbiased estimator of the other 5.
23 You know, it's just not.

24 Now, what you might be getting at, if you have 90 percent
25 of the population and you want to say something about that

1 90 percent, well, then, okay, then the 90 percent is my
2 population, and the mean is what it is. That's fine.

3 The objection is, is when you take that mean from a
4 nonrandom sample, even of 90 percent, and project that to the
5 other 10 percent that you don't know anything about. If
6 Dr. Duggan had done his 10-state analysis -- and he and I will
7 argue at trial about how he calculated his differences within
8 the 10 states -- but if he had said, "Okay, here's the damages
9 I found for these 10 states because that's the data that I
10 had available to me, and I'm going to confine my damage
11 analysis to these 10 states, knowing that there's damage
12 elsewhere but I don't have the data to calculate that," we
13 wouldn't be here today. I wouldn't have an objection to that.
14 If you have a nonrandom sample and confine your analysis to
15 that sample, well, you know, then, as lawyers are wanting to
16 say, it is what it is.

17 THE COURT: What if you were to have CMS data from
18 Centers for Medicare and Medicaid Services from the other 30
19 carriers which would show roughly it was within that average,
20 would that help your reliability problems?

21 THE WITNESS: Well, there's a lot of ways to take the
22 average, but if you had, I mean --

23 THE COURT: Let's say you take -- you know, you have 7
24 carriers, let's say. I forget the percentage; it's a fairly
25 large percentage of the population. You're saying, yes, but it

1 doesn't -- I don't know where it aggregates to, but let's say
2 you have a significant chunk not covered, but then you find out
3 from CMS, because they have actually a pretty good database,
4 that they're actually paying out numbers that are in that
5 median, would that make you feel more comfortable?

6 THE WITNESS: Okay, let's be clear. So now we're
7 talking about what the carriers are actually paying out?

8 THE COURT: I think CMS might have that data, even
9 if --

10 THE WITNESS: Oh, yes, I mean, Dr. Duggan had --

11 THE COURT: Even if we don't exactly have the carrier
12 arrays, I think we know -- maybe they'll correct me -- that
13 there's a pretty decent database coming out of CMS. You can
14 tell roughly from various states what you were paying per
15 claim.

16 THE WITNESS: Right, but what Dr. Duggan is
17 extrapolating is not the -- it's the difference. And the
18 problem is, in the difference calculation, it's not just the
19 amount that is paid, it's the amount that would have been paid.
20 And it's that difference is what I'm talking about that varies
21 all over the map that --

22 THE COURT: Yes, but if the medians are similar to the
23 medians in the carriers --

24 THE WITNESS: Okay, that's something different from
25 what you said before.

1 THE COURT: I understand it is something different
2 because you don't know exactly what it's going to do when you
3 drop the AWP, but it at least would provide you some solace
4 that the carriers have similar arrays.

5 THE WITNESS: No. I mean, the arrays that we've seen
6 aren't similar. I mean, Metra Health from one year to the next
7 is -- I mean, and you're right, you can even say, well, the
8 array is kind of similar because it's got similar products and
9 whatever. But look at what happens when you take the actual
10 prices, and then you do what Dr. Duggan does: You go from
11 50 percent difference to 3 1/2 percent difference in one year,
12 same carrier, same drug. So just to say, okay, what they're
13 doing now, the medians now are roughly the same, does not tell
14 me that they have roughly the same array because Dr. Duggan's
15 own work, the arrays that he has, shows that, okay, if they --
16 what you're trying to get at is, if they all have the same
17 array, they must all have the same difference, and we know that
18 they don't. The outside information we have, your Honor, is
19 the exact opposite of what you're purporting would make me feel
20 better. The outside information we have, which is the arrays
21 that we do have, tells me that these difference calculations
22 vary greatly, all right. Even if what's being paid in the
23 actual world is roughly the same, when you do what Dr. Duggan
24 does, the difference calculations vary substantially. So just
25 knowing what's being done in the actual world doesn't give me

1 any great confidence, and what we do know about the arrays that
2 we do have pushes me in the opposite direction, that when you
3 go to extrapolate difference calculation, which is what
4 Dr. Duggan is doing, that that is just not an accurate or a
5 reliable method that he's utilizing.

6 Q. Dr. Duggan --

7 THE COURT: I promised I wouldn't hijack, and I did.
8 So given what I've been doing, I should probably -- how much
9 longer do you think you'd have if I didn't say another word?

10 MR. TORBORG: Well, I haven't started Medicaid, but --

11 THE COURT: I understand.

12 MR. TORBORG: -- fortunately we've gotten through most
13 of Medicare. A couple of final points on Medicare, and we'll
14 go to Medicaid.

15 THE COURT: All right.

16 Q. Dr. Hughes, if I could ask you to go to Tab 42 in the
17 binder.

18 A. Yes, I'm there.

19 Q. Similar to the last chart that looked sort of like this,
20 is this a chart that was prepared by HealthScape at your
21 direction?

22 A. Yes, it was.

23 Q. And could you tell the Court what this chart shows.

24 A. Yes. This chart -- and to pick the quarter, again, so
25 that I not be accused of cherry-picking, I said, let's just

1 pick the highest expenditure quarter, which turns out to be Q-2
2 in 2001. And in that quarter he has only two arrays per
3 J-Code, and the five J-Codes that he does extrapolations on are
4 across the bottom. And the calculated difference fractions
5 from those two carriers varied basically by a factor of 2 or
6 even close -- a factor of 2 or a factor of 3. They're not
7 consistent. Only for J-Code 70-60 are these calculated
8 DIFF-FRACs in striking distance of one another. For the rest
9 of them, they vary by twofold, or even in the case of 70-40,
10 three-fold.

11 Q. So for the highest expenditure quarter in the case for
12 Medicare, he only had two carriers for Medicare Part B?

13 A. Yeah, and this is something, you know, when you talk about
14 the validity of Dr. Duggan's sample, both for Medicare and for
15 Medicaid, we keep talking about four carrier samples or ten
16 state samples. It's actually very rare in Medicare that he
17 actually has four carriers; and in the previous slide, it was
18 only six quarters. The rest of the time he has one, two, or
19 three of the carriers.

20 And, you know, and this is another important point, your
21 Honor, is that what's the sample? He said, oh, it's four
22 carriers. Well, sometimes it's one, sometimes it's two,
23 sometimes it's three. And even if, I grant you because you
24 want to go there, even if say we have some information that
25 says four is good enough, how can --

1 THE COURT: Yes, but don't forget, I have a lot more
2 than just a cold statistical analysis. I mean, you know, you
3 might know a lot more about the carriers or how they did things
4 or how big they were and that sort of thing, but you're saying,
5 no matter what I did with respect to seven, you're saying two,
6 especially if they're nonrepresentative and they're small
7 numbers, isn't enough.

8 THE WITNESS: Correct. Again, if we had some other
9 information, if we had CMS telling everybody to do it the same
10 way, and then you looked at what you had and you saw that they
11 were pretty much doing it the same way, and you calculated your
12 differences and found out they came out to be the same, maybe
13 one would even be good enough. But that's not what's going on
14 here. There's just a great deal of variability in how they're
15 doing these things, and that leads to a great deal of
16 variability in his difference fractions.

17 And in his extrapolation, he has no idea what else is
18 in the array. And these difference fractions are driven
19 entirely by -- the size of them is driven entirely by what else
20 is in the array. He doesn't know anything about that. He
21 cannot provide any assurance whatsoever, for the carriers in
22 the quarters for where he doesn't have arrays, he can provide
23 no assurance whatsoever what else is in the array. Therefore,
24 he can provide no assurance, no measure, that the difference
25 fractions that he calculated where he did have arrays bears any

1 resemblance to what it would be where he doesn't have arrays.

2 Q. One final chart for Medicare. Now, Dr. Duggan, as you
3 stated initially, he extrapolates using a difference fraction
4 from across the carriers' time period where he had arrays,
5 correct?

6 A. I'm sorry, I zoned out for just one second. Could you
7 repeat that, please.

8 Q. I want to step back to how he did his extrapolation for
9 Medicare. He created one difference fraction per J-Code for
10 each carrier --

11 A. Yes.

12 Q. -- that represented what he saw over the entire time
13 period where they had arrays? It might be two years, it might
14 be three years, right?

15 A. That's correct.

16 Q. Even across those weighted averages, do we see any
17 consistency across the carriers?

18 A. No, we do not.

19 Q. If you go to Tab 40. Again, is this a slide that
20 HealthScape prepared at your direction?

21 A. Yes, it is.

22 Q. And can you tell us what this slide shows.

23 A. Okay, so for his within-carrier extrapolations, he created
24 a weighted average difference fraction, which he did by summing
25 all of the difference that he finds across -- let me try again.

1 He sums all the difference that he calculated across all the
2 quarters for which he had arrays for a particular carrier and
3 divides that by the total paid across all the quarters for
4 which he has arrays by that particular carrier, and that yields
5 a dollar-weighted average of the quarterly difference
6 fractions. And here again, when you look across these
7 calculated numbers, so for J-Code 70-50, the red circle, WPS
8 roughly 45 percent, that's the number that he will apply as his
9 calculated difference for all the other WPS quarters for which
10 he does not have arrays. For Florida Blue Shield, that's only
11 10 percent, so again we've got a better than three-fold
12 difference between the two. And the pattern is similar for
13 four of the other five J-Codes, and then for 70-60, they are
14 actually fairly close together. But, again, as the title of
15 the slide says, the pattern is not consistent. Sometimes they
16 are wildly different, and sometimes they're very close.

17 THE COURT: So this is an argument against going
18 across carriers, but it doesn't apply within carriers?

19 THE WITNESS: In what way? Because, again, I just
20 want to hark back to the Metra Health --

21 THE COURT: I don't understand your argument here.
22 What's wrong with doing what he did within a carrier?

23 THE WITNESS: Because as we saw with the Metra Health
24 array example, from year to year --

25 THE COURT: Yes, but this chart has nothing to do with

1 that, right?

2 THE WITNESS: Well, yes, this speaks to the same
3 thing. I mean --

4 THE COURT: Why?

5 THE WITNESS: Well, the Metra Health, the two sets of
6 arrays that we looked at for Metra Health were a year apart,
7 same product, so on and so forth.

8 THE COURT: Right, and that was your point for that.

9 THE WITNESS: That was my point for within-carrier,
10 you know, within-carrier extrapolation that --

11 THE COURT: Excuse me, my point is much narrower.
12 This chart only has to do with across carriers? This is
13 helping, in your view, the argument across carriers, the
14 variability across carriers?

15 THE WITNESS: I think the point is that by taking a
16 weighted average doesn't reduce his variability, doesn't make
17 the carriers more similar.

18 THE COURT: More similar across carriers, right?

19 THE WITNESS: Yes. I'm sorry. Thank you.

20 MR. TORBORG: Your Honor, since you asked that last
21 question, I have to do one more chart. I will be fast.

22 Q. Is this again a chart that HealthScape prepared under your
23 direction?

24 THE COURT: Which tab are we at?

25 MR. TORBORG: I'm sorry, Tab 44.

1 A. Yes, it is.

2 Q. What is the title of this slide?

3 A. Actually, I believe this is at Tab 43, not 44.

4 THE COURT: 43?

5 A. Mr. Torborg, am I right? I believe it's 43. I just want
6 to make -- okay, everybody's looking at it on the screen, so
7 that's fine.

8 THE COURT: Looking at what?

9 THE WITNESS: This slide is that there's no consistent
10 pattern within carriers across time in the impact of his
11 revised prices.

12 MR. BREEN: Which slide are we on?

13 MR. TORBORG: Tab 43.

14 THE WITNESS: Tab 43. I'm sorry, Mr. Breen.

15 Okay, so within carriers there's no consistent pattern
16 in how his exercise affects the difference for J-Code 70-50.
17 What we've got here is, the diamond in the middle is the mean
18 for Connecticut General over that period. It goes from a
19 minimum of 15 percent to a maximum of just under 80 percent.
20 And the measures are similar for the other three carriers.

21 Q. And what does this show us? What do you take away from
22 this slide, Dr. Hughes?

23 A. Well, again, that even the mean, the weighted average that
24 he uses within carrier, that mean is going to be a poor
25 predictor of the true mean of the population because of all the

1 things that he doesn't know -- because of the variability in
2 the mean, because what you're seeing here is the straight mean
3 for Connecticut General, the minimum and the maximum within
4 70-50 within a carrier.

5 So, in other words, the DIFF-FRAC that he calculates
6 for Cigna, Connecticut General, for the times that he has
7 arrays can vary from 80 percent down to 15 percent, and then
8 there's other values in between. So then to take that mean and
9 to extrapolate across time within carriers causes the same
10 problem. These DIFF-FRACs have such variability suggests that
11 the arrays that he -- well, it shows that the arrays that he
12 does have for this drug vary across time, the ones that we know
13 about vary greatly across time because they yield for the most
14 part greatly different DIFF-FRACs. He averages them and then
15 extrapolates with a single number, a mean of around 30
16 something percent for Cigna. Well, the ones he doesn't have
17 arrays for, we don't know that they're anywhere near
18 30 percent. They could be 80, they could be 70, they could be
19 60, they could be 90, they could be 10, they could be 5. And
20 all that Dr. Duggan ever does is say, "It's okay, it will even
21 out." But he has no statistical basis for making that claim.
22 He has nothing in his data that suggests this will all even
23 out.

24 Again, to go back to my original example, if over this
25 period '97 to 2001 for Cigna, if CMS had said, "Here's how you

1 do it," these dots vertically would be much closer together.
2 They wouldn't necessarily sit on top of each other, but they'd
3 be much closer together because we would then have assurance
4 that over time Cigna is doing the same thing again and again in
5 constructing its arrays.

6 Q. You referred earlier to a term called a "confidence
7 interval"?

8 A. I did.

9 Q. Based on the sample that Dr. Duggan employed, would he be
10 able to give the Court a valid confidence interval?

11 A. He does not provide any such confidence interval, but the
12 standard measures of confidence in a 95 percent confidence or
13 plus or minus standard errors, or whatever the case may be,
14 these measures of course are valid only for representative
15 samples.

16 THE COURT: So confidence intervals can only be
17 calculated for random samples?

18 THE WITNESS: For representative --

19 THE COURT: Or for representative samples?

20 THE WITNESS: Well, let's be careful. Let's be
21 careful. So if you have a subset of interest of a population,
22 okay, so if my population is the 50 people in that room, okay,
23 then even though there's 350 million of us out here
24 otherwise -- I'm sorry, I mixed my example. Let me try again.

25 If your nonrandom sample is your population of

1 interest, you know, the 10 biggest states, the 200 biggest
2 drugs, and you're confining yourself to that, yes, you can
3 calculate confidence intervals for --

4 THE COURT: Even for nonrandom?

5 THE WITNESS: Within the sample, within the sample.
6 Outside, no.

7 THE COURT: So then you're saying that you can't
8 extrapolate with any -- you can't calculate a confidence
9 interval?

10 THE WITNESS: Well, there are formulas for
11 calculating, you know, prediction error and forecast error and
12 those sorts of things, but Dr. Duggan doesn't have the
13 information that he needs to do that. And I assume if he
14 did --

15 THE COURT: You're saying it's impossible for him to
16 calculate a confidence interval outside of the population of
17 data he actually has?

18 THE WITNESS: Given the deficiencies of his sample,
19 okay, because remember --

20 THE COURT: So your answer is, it's impossible?

21 THE WITNESS: Let me back up to what I should have
22 been saying at the beginning of this exchange, okay. Remember
23 what you're doing with the confidence interval. A confidence
24 interval or a standard deviation or any of these measures are a
25 measure telling you the quality of your estimator, okay. And

1 so it's telling you how accurate or inaccurate your sample
2 results are relative to the population. You're calculating
3 sample means because you want to say something about the wider
4 population.

5 THE COURT: Right.

6 THE WITNESS: That's why it's imperative to have a
7 random or a representative sample.

8 THE COURT: Now, let's assume I found, based on other
9 information, it was representative. I don't know that I will,
10 but let's say it's 80 percent of the population or some huge
11 number. I don't know that, but let's assume I did. Is it
12 feasible, if it's a representative sample, to calculate a
13 confidence interval with respect to the extrapolation?

14 THE WITNESS: Well, assuming everybody agrees on
15 the represent- -- yes, if it's a valid sample.

16 THE COURT: Right, let's just say for purposes of this
17 it's representative, can you do a confidence interval?

18 THE WITNESS: With a valid sample? With a valid
19 sample, yes.

20 THE COURT: All right, so has he done one?

21 THE WITNESS: No.

22 THE COURT: All right, you're saying he should have --
23 I'm just trying to get this down -- you're saying he should
24 have calculated a confidence interval?

25 THE WITNESS: What I'm saying is, standard accepted

1 practice in economics is that when you have a parameter, a
2 sample parameter that you're using to say something about the
3 population, everybody wants to know, how accurate is this
4 predictor?

5 THE COURT: The broader population where you haven't
6 done it, right, you typically will see a confidence interval,
7 right?

8 THE WITNESS: Yes.

9 THE COURT: Plus or minus. And what, is 95 percent
10 standard?

11 THE WITNESS: 95 percent is --

12 THE COURT: 90 percent is sometimes accepted, right?

13 THE WITNESS: Less and less, but, yes.

14 THE COURT: Okay, below that is --

15 THE WITNESS: Below that is considered not acceptable,
16 yes.

17 THE COURT: But I have seen in other cases 90 percent
18 submitted, right?

19 THE WITNESS: Well, you know, and I will say, even in
20 journals nowadays, you'll see somebody say, "Well, I'm almost
21 there, you know, I've got 75 percent," and that's kind of
22 cheating.

23 THE COURT: No, I'm asking 90, 90 I've seen.

24 THE WITNESS: Yes, 90 would be still acceptable.

25 THE COURT: All right. So how far does it drop, in

1 your mind?

2 THE WITNESS: In my experience, 90 percent is as low
3 as you would go.

4 THE COURT: In a peer-reviewed journal?

5 THE WITNESS: In a peer-reviewed journal or in a Ph.D.
6 thesis or something like that.

7 THE COURT: Thank you.

8 MR. TORBORG: So I move to Medicaid. If the Court
9 wanted to take a midmorning break now, I'm switching gears.

10 THE COURT: How much longer? It would be better to
11 actually try and finish this so then they can regroup for
12 cross. How long do you think you'll be for Medicaid?

13 MR. TORBORG: Well, it should be much shorter. We've
14 covered a lot of the broad statistical concepts already, so we
15 should be able just to get to some charts and some numbers.

16 Q. Dr. Hughes, have you prepared a slide which summarizes
17 your criticisms of Dr. Duggan's Medicaid extrapolations?

18 A. Yes, I have.

19 Q. And is that the second page of the handout?

20 A. Yes.

21 Q. In the first bullet you wrote "Failed to follow accepted
22 statistical standards." There's a sub-bullet that says "Did
23 not use a representative sample."

24 A. That's correct.

25 Q. Let me ask you first to remind the Court, what sample did

1 Dr. Duggan use for his Medicaid extrapolation?

2 A. For his extrapolation, he used a maximum of 10 states by
3 J-Code by quarter. As I understand the selection of these
4 states, it was a combination of where the state claims level
5 data was available primarily, combined with the dollar amount
6 of claims that had occurred in that state.

7 Q. Is there a name for this kind of sample?

8 A. This again is a convenience sample.

9 Q. Was this method of selecting the sample statistically
10 valid?

11 A. In my opinion, not at all.

12 Q. Why not?

13 A. Well, for a number of reasons. First of all, it is in
14 fact a convenience sample. You know, we heard in December
15 that, well, okay, nonrandom samples are used all the time, and
16 I wouldn't disagree with that; but when you have a nonrandom
17 sample, you have to either confine your analysis to the
18 nonrandom sample, or you've got to do something using other
19 information to adjust the sample to make it more
20 representative. So, you know, there's a lot of information out
21 there on what the other states are doing which potentially he
22 could have used to try to make some adjustment to his
23 DIFF-FRACs, but he doesn't do anything of that.

24 The other thing is that, like in Medicare, in Medicaid
25 we keep hearing, "Well, I used a 10-state sample." Out of 44

1 quarters, Dr. Duggan actually has ten states for only the last
2 five, and he says that's a representative sample. For some
3 other quarters, he only has nine, and he says that's a
4 representative sample too. For some he only has three or two
5 or one, and for a couple of quarters for one year, he's
6 extrapolating to 38 states based only on Illinois, and for
7 another, I don't remember, four or five quarters he's
8 extrapolating to 38 states based on Illinois and New Jersey.

9 Here's the way I think about it. If --

10 THE COURT: Excuse me, before we move on, did you see
11 that he did another nine states?

12 THE WITNESS: But he did not redo the extrapolations
13 using those nine states. So we're talking about
14 the extrapolation here. He did the claim-by-claim analysis --

15 THE COURT: He says he was right within 6 percent.

16 THE WITNESS: Yeah, if you look at the total, but if
17 you look at the individual states, sometimes he's off by
18 40 percent. Utah, his extrapolations -- I believe it was
19 Utah -- overestimated the actual damages by some 40 percent.

20 THE COURT: So to the extent that I found liability
21 across the board, it might be a good aggregate measure, but if
22 I had to go state by state, you're saying I need state-by-state
23 data? Let's assume I said on the "lower of" methodology -- I
24 mean, it's different now, it's a different methodology state by
25 state -- but I found in some states, let's say, the government

1 knowledge defense won the day; some state actually approved
2 this knowing full well what the difference is. And then I
3 said, well, in these other states there's no government
4 knowledge defense; it's possible here they didn't know and they
5 didn't approve. You're saying that I can't use his average
6 because while it may be good as an average across the board, it
7 may not be good state by state?

8 THE WITNESS: I wouldn't even go as far as to say good
9 as an average across the board.

10 THE COURT: Why? For twenty states with the bulk of
11 the population, why?

12 THE WITNESS: Well, again, the size of the
13 population --

14 THE COURT: I'm not sure I'm totally on that page with
15 you. I mean, I understand if you went into Neiman Marcus, you
16 might get a very bad sample going to someplace that's really
17 specific, but if you go into over half the states, it does
18 strike me as an important factor in deciding whether it's
19 representative.

20 THE WITNESS: Well, okay, another factor in deciding
21 whether it's representative, when you say, well, he's got this
22 average, well, when you look at what went into that average,
23 were they fairly similar? If answer is "yes," then I'm going
24 to be with you, your Honor.

25 THE COURT: Okay, right. So at some level I've got to

1 do a factual comparison among the states to decide whether it's
2 representative.

3 THE WITNESS: But as we're going to get to in just a
4 second, that's not the case. When he calculates that average
5 DIFF-FRAC that he uses in his extrapolation across however many
6 states he has from one the ten, those vary widely. And so we
7 don't have any confidence that what's going on in the other
8 states is represented by that mean because where we do have the
9 information, the DIFF-FRAC is all over the map, so why should
10 we think that the DIFF-FRAC in the other states meets that
11 average? Because, I mean, remember, what is it, the OIG
12 report, I mean, even where they have the same AWP "lesser than"
13 methodology, the report finds that the states are still
14 reimbursing wildly different amounts. So his assurance, well,
15 they're all doing basically the same thing, the OIG says that
16 doesn't matter that they're all doing roughly the same thing
17 because when you look at what they're paying, it doesn't come
18 out the same.

19 But I would agree with you, if he has ten states of
20 data and the DIFF-FRACs that he calculates are in a very narrow
21 range, okay, well, these ten states, there was a very narrow
22 range; maybe I could be convinced that the other states are
23 doing what this state is doing.

24 THE COURT: With similar methodologies.

25 THE WITNESS: Right, but --

1 THE COURT: But I'd have to look state by state is
2 what you're saying.

3 THE WITNESS: You'd have to look state by state. But,
4 remember, you know, he's using a sample to say something about
5 a wider population, okay. And so in four quarters, he's using
6 one state and says that's representative. Okay, well, if one
7 state is okay for 1991, why does he need the other states? I
8 mean, if one state is a good enough sample, why spend all the
9 money and the time on the other ones? But he uses one state
10 for just -- for four quarters. He uses two for a few more
11 quarters. He uses three for a few more quarters. And you've
12 got to get per -- I believe it's eleven, twelve, or thirteen or
13 something in there quarters, he's using five states or less,
14 half of his alleged ten-state sample.

15 These things can't all be representative. That's my
16 point, your Honor. And he doesn't give us any indication that
17 they are, and again at the end of the day is saying, "Your
18 Honor, trust me. I'm an economist. I've done a lot of work.
19 I've looked at millions of lines of data. I've written down
20 thousands of lines of computer code. Trust me, I'm okay."
21 It's got to be better than that from a professional economic
22 standard. Excuse me.

23 THE COURT: No, that's okay. I talked over you. I'm
24 sorry. So what you haven't done is gone state by state and
25 said, well, this is similar to New York and this one isn't?

1 THE WITNESS: I have not done that, no. But, again,
2 the point is one of -- you know, I'm not here today -- we'll do
3 this at trial -- to talk about the accuracy of his estimates.
4 What I'm here to talk about is the scientific validity of his
5 methodology, and you can't say for some quarters one state is a
6 representative sample and for another quarter five states are a
7 representative sample and for another quarter -- because it
8 just illustrates the ad hoc nature with which he's constructed
9 his sample. And so to go from that kind of quote/unquote
10 "sample" to a wider population, I'm sorry, from an economic
11 statistical standpoint makes no sense whatsoever. It's not a
12 statistically valid sample, period. And if it's not a
13 statistically valid sample, you cannot extrapolate to the wider
14 population.

15 Q. Dr. Hughes, you referred to variability across the states
16 in the results of Dr. Duggan's analysis?

17 A. Yes, I do.

18 Q. And what did you look at to assess that variability?

19 A. I looked at the -- for the DIFF-FRACs for the states where
20 he has data, I looked at the variability in the calculated
21 DIFF-FRACs, and I prepared some slides that contain the mean,
22 the minimum, and the maximum, but then we also calculated the
23 standard deviation of those numbers that went into the
24 calculation of his means.

25 Q. Now, there are 44 NDCs at issue in the Medicaid part of

1 the case, right?

2 A. Yes.

3 Q. And there's 44 quarters in the damage period, correct?

4 A. That's correct.

5 Q. And there are 19 states where Dr. Duggan now has done what
6 he calls a claim-by-claim analysis, right?

7 A. That's correct.

8 Q. Dr. Duggan calculated differences on a quarterly NDC basis
9 for those states, right?

10 A. That's correct.

11 Q. That's a lot of DIFF-FRACs, a lot of percentages, isn't
12 it?

13 A. Yes, it is.

14 Q. It would be impossible to go through all those with the
15 Court today?

16 A. I would transcend the Court's sense of humor very quickly,
17 yes.

18 Q. Have you done anything to try to boil it down for the
19 Court?

20 A. Yes. I've prepared some slides with some example NDCs in
21 some example periods.

22 Q. Can we start with Tab 11. Dr. Hughes, is this a chart
23 that was prepared by HealthScape at your direction?

24 A. Yes, it is.

25 Q. And this is titled "Dr. Duggan's calculations demonstrate

1 significant variability across the 19 states he analyzed in the
2 impact of his revised prices. Top 6 NDCs (greater than
3 \$5 million in expenditures) 1999 Q-4 (highest expenditure
4 quarter)," is that right?

5 A. That's correct.

6 Q. Could you tell us what this chart demonstrates.

7 A. Right. So this information is information that was
8 calculated by Dr. Duggan in the course of his work. What we
9 see, if you look at the first column which is vancomycin, which
10 is the highest expenditure drug in the case, that for the
11 states where he had data for 1999 Q-4, the maximum DIFF-FRAC in
12 a state was approximately 92 percent. The minimum DIFF-FRAC in
13 a state for the same NDC for the same quarter was, say, it
14 looks to be 26, 27 percent. And the mean, which here the mean
15 is actually a little different from what Dr. Duggan had
16 calculated because he used whatever he had of the 10 states,
17 and I used the data from all 19 states that he did the
18 claim-by-claim analysis on, and so that yields an average
19 DIFF-FRAC of 70 some percent. So just the point being is that
20 if you're using a DIFF-FRAC, average DIFF-FRAC for this drug of
21 79 percent, and you're extrapolating to a state where the true
22 DIFF-FRAC matches that minimum, for example, to take the
23 extreme case, of 26 percent, you are grossly overestimating the
24 actual difference.

25 Q. And, Dr. Hughes, have you analyzed this same data for the

1 same time period across all 44 NDCs?

2 A. Yes, just to say just picking the top was, so I wouldn't
3 be accused of cherry-picking, if you go to Tab 13, we have the
4 same information but now for all 44 NDCs. And, again, the
5 pattern remains that using the average as a predictor is going
6 to be grossly wrong for certain -- to use that average as a
7 predictor would have been grossly wrong in some of the 19
8 states that he analyzed. It would be close for others, but it
9 would be grossly wrong for others. It would be a great
10 overestimate for some states, and it would be an underestimate
11 for others, but --

12 THE COURT: But if I found there was a fraud that
13 affected every state and that the methodology was substantially
14 similar, would the mean be a fair aggregate across all of those
15 states?

16 THE WITNESS: No.

17 THE COURT: Why?

18 THE WITNESS: Because it's not a mean from a
19 statistically valid sample. I'm sorry to sound like a broken
20 record.

21 THE COURT: You are a little bit, but if I thought it
22 was, that's a fact question for me.

23 THE WITNESS: Yes.

24 THE COURT: You don't know very much about the sample
25 yourself because you haven't gone back and analyzed. So if as

1 a factual matter I found it was representative -- maybe not
2 random but representative -- and I found it was a fraud across
3 the states because it was the same price, okay, across the
4 states, and there were roughly similar methodologies in those
5 states, unlike Ohio which I think was plucked out, you know,
6 they're roughly similar, it would be a decent aggregate number.
7 What you're saying is, if I chose one state only where there
8 was a problem because of a different methodology or something,
9 you would say I couldn't use this mean fairly for that one
10 state?

11 THE WITNESS: Okay, remember the textbook that we were
12 looking at. You know, the validity of a sample doesn't depend
13 on its size, but it depends primarily on the variability in the
14 population. So the answer to that question is, even if you
15 find these things are roughly similar across the states, if
16 there's great variability across the states, that makes that
17 mean a less reliable predictor. The more variability there is
18 in the population, the less reliable that is as a predictor,
19 even if it comes from a representative sample.

20 Q. Dr. Hughes, the third bullet on your slide states "Ignores
21 state MAC prices adopted in full knowledge of the acquisition
22 costs of the drugs and not relying on AWP." What are you
23 getting at there?

24 A. Okay, well, the point there is that Dr. Duggan treated MAC
25 prices exactly the same way as a scaled AWP price. In many

1 cases the MACs are not at all based on AWP, but these are
2 negotiated prices, negotiated in full knowledge of what the
3 acquisition cost of the drug is and knowing that the
4 acquisition cost of the drug is not equal to AWP.

5 THE COURT: For which states?

6 THE WITNESS: I beg your pardon?

7 THE COURT: For which states? Which states, based on
8 your assumption, negotiated MAC with the industry knowing what
9 the acquisition costs are?

10 THE WITNESS: Well, for that, I would rely on my
11 experience with Express-Scripts and Medco because there were
12 states -- and I'm sorry, your Honor, I'm not going to recall
13 which states they were, but there were states that used, for
14 example, Medco MAC prices for their state MACs, and I know that
15 Medco negotiated these MACs in full knowledge.

16 THE COURT: So you're drawing on your experience with
17 the PBMs rather than something in this record?

18 THE WITNESS: Yes, rather than something in this
19 record, but with the knowledge that Medco MACs showed up as
20 Medicaid MACs for certain states in certain time periods.

21 Q. Dr. Hughes, how does Dr. Duggan's treatment of MAC claims
22 impact the extrapolation?

23 A. Well, because the extrapolations are based on the
24 so-called STUD data, which is an aggregate, just the total
25 amount that was paid, he has no knowledge at all as to what

1 fraction of claims are based on the MAC or not. And he said,
2 "Well, yeah, well, it's going to be a lower amount if there was
3 a MAC used." That's true. But if at the fact stage, if it's
4 determined that, well, you know, MAC claims shouldn't be in
5 here, using the SDUD data, he has absolutely no way of pulling
6 out what fraction, which claims are MAC claims and which claims
7 are scaled AWP or anything else. So he has no ability to
8 remove these claims from his damage calculation.

9 THE COURT: Excuse me. Run that by me. So if
10 Minnesota has a MAC of 50 bucks, let's say -- I have no idea --
11 50 bucks, and I find that they negotiated that with the
12 industry with full knowledge that the real price was \$10, and I
13 do find that there's a government knowledge defense, why can't
14 we pull those numbers? I don't understand why we couldn't do
15 that.

16 THE WITNESS: Okay, so the extrapolation, say, to
17 Minnesota for any NDC quarter will be his average DIFF-FRAC
18 across his sample multiplied by what's in the SDUD data, which
19 is the total expenditure on that NDC in that state. All he has
20 is the total expenditure in that NDC in that state. He doesn't
21 have any information, what's at U and C, what's at AWP minus,
22 or what's at a MAC, so --

23 THE COURT: So you're saying my only choice is
24 essentially not to award damages in Minnesota?

25 THE WITNESS: No. That's your call, your Honor, not

1 mine. It's not a statistical call.

2 THE COURT: In other words, if they're paying out at
3 the MAC and I find there's government knowledge, essentially
4 for that NDC, the dollar amount would be zero. There would be
5 none that -- is that right?

6 THE WITNESS: If there were a NDC quarter where
7 everything was paid at the MAC, then, yes.

8 THE COURT: Well, why wouldn't it all be paid at the
9 MAC? I'm just trying to understand the significance of this,
10 because that may be true in some states. We know there were
11 battles with the pharmacies and --

12 THE WITNESS: Right. Sometimes they're all paid at
13 the MAC, and sometimes, if it's a lesser of -- so sometimes
14 they say MAC or nothing, and then sometimes it's the lesser of
15 AWP minus MAC --

16 THE COURT: The usual and customary might be lower,
17 but then that wouldn't affect the -- so, I mean, why isn't the
18 simple answer you're right, and for that state the damages are
19 zero? I mean, in other words, it doesn't affect the
20 extrapolation; I just say zero damages because the state bought
21 into it.

22 THE WITNESS: If there is a case where it's sometimes
23 MAC, sometimes scaled AWP, sometimes, you know, whatever the
24 case, or U and C --

25 THE COURT: You're saying there's going to be certain

1 circumstances where the scaled AWP is lower than the MAC,
2 right? Of course, right. That's the whole gist of this is
3 that the correct AWP is the lowest number. But the defense is,
4 "Yeah, you're darn right that's true, and they knew it, and the
5 PBM told them, and they sort of struck a deal with the
6 pharmaceutical industry and went with a MAC instead." Doesn't
7 that not affect the damage calculation but just wipe out
8 liability?

9 THE WITNESS: If they're all at MACs, yes.

10 THE COURT: But even if they're at usual and
11 customary, that's not an AWP-based number, so it wouldn't
12 matter, right?

13 THE WITNESS: If all of the -- yes, if all of the
14 expenditures in the state were at something other than AWP
15 minus, yes, that would wipe out --

16 THE COURT: And it would be true even for WAC, which
17 is typically higher than a MAC. I mean, I think we're speaking
18 another language here, but the same would be true with WAC. If
19 they bought into a MAC knowing what the real numbers were, the
20 defendants may be off the hook, but that's a liability issue.

21 THE WITNESS: Right.

22 THE COURT: Okay.

23 MR. TORBORG: That's all the questions I have.

24 THE COURT: Okay, good. I'll see you in half an hour.
25 How long do you think you'll have on cross?

1 MR. BREEN: At least forty-five minutes, your Honor,
2 maybe more.

3 THE COURT: I just want to plan out the day. So let's
4 say you have a cross that would roughly bring us till 12:15,
5 and then what? A little bit of cleanup, maybe 12:30, like, by
6 the time we end. Who's your next witness, Mr. Young?

7 MR. DALY: Mr. Young.

8 MR. BREEN: Mr. Young.

9 THE COURT: How long will he be?

10 MR. TORBORG: I estimate probably about the same time
11 as Dr. Hughes, maybe a little bit less.

12 THE COURT: Young is the one where the new numbers are
13 coming in?

14 MR. TORBORG: No. We're not going to present those.
15 It's just not -- I chose that it's -- I don't think I need it
16 to show the point we're making, so I didn't use the standard
17 deviation figures --

18 THE COURT: Okay, just so that they're not, like, sort
19 of -- all right, so they can, you know, have a cup of coffee
20 and enjoy themselves. So Young will be from, let's say, 12:30
21 till when?

22 MR. TORBORG: Uhm, probably 2:00?

23 THE COURT: Well, don't forget, we'll take lunch in
24 there, so 1:00 to 2:00. So 12:30, how long do you think you
25 need, an hour?

1 MR. TORBORG: Probably an hour and fifteen minutes.

2 THE COURT: So let's say 2:30-ish, 2:45, and then the
3 same amount of time on cross. And then we'll finish today, or
4 were you planning on putting Dr. Duggan on? That's what I'm
5 trying to plan around to make sure we're tight.

6 MR. BREEN: We will likely put Dr. Duggan back on,
7 your Honor.

8 THE COURT: How much time do you need for Dr. Duggan?

9 MR. BREEN: It's kind of hard to say, your Honor,
10 until we get a chance to regroup here.

11 THE COURT: Well, I will need some number to know
12 whether I can simply have fun with the professor teaching me
13 his theory or whether I need to be tighter because I would love
14 to finish this today. We've come back once, and it's essential
15 that --

16 DR. DUGGAN: I will say I have a 6:30 flight. That
17 was the only flight I could get.

18 THE COURT: So 6:30, so you need to be there at 5:30.
19 You're just going down to Washington, right, a US Air flight,
20 right?

21 DR. DUGGAN: No, AirTran.

22 (Discussion off the record.)

23 (A recess was taken, 11:04 a.m.)

24 (Resumed, 11:37 a.m.)

25 THE COURT: I am sorry, something came up, and I'm

1 going to have to take a phone call at 12:30. So I don't know
2 if this ruins anybody's plans. I'd take a break then, and then
3 we'll come back an hour later, I think probably is the best way
4 to do it. Okay?

5 CROSS-EXAMINATION BY MR. BREEN:

6 Q. Good morning, Professor Hughes.

7 A. Good morning, Mr. Breen.

8 Q. Just a few preliminary questions. In your experience,
9 academically or in a nonacademic capacity, have you ever
10 conducted an econometric study of the Medicaid program's
11 expenditures for the Medicare program's expenditures
12 nationwide?

13 A. Not on prescription drugs, no.

14 Q. On anything?

15 A. I had a post-doc once, and I believe it was a nationwide
16 study of drug treatment expenditures, if memory serves.

17 THE COURT: You mean, someone did it under you, or you
18 did it?

19 THE WITNESS: No. I was a post-doc at Brandeis, and I
20 did a study of drug treatment expenditures under Medicaid, and
21 I believe it was 50 states, yes.

22 Q. What size sample did you use?

23 A. I used all 50 states.

24 Q. So you didn't do a sampling methodology?

25 A. No. If the population is the country, I used the entire

1 nation.

2 Q. What data did you use?

3 A. This is 1986 or '87, so I'm not going to be able to
4 remember, but it was the data from -- it was expenditure
5 data -- no, I take that back. It was expenditure data from the
6 federal government and then also gathered by the states because
7 I remember that it took a while to gather the state data.

8 Q. Was it SDUD data?

9 A. No. It's a different industry, if you will.

10 Q. A different industry, okay. So it has no relevance to the
11 case you're testifying about today?

12 A. No, but it was responsive to your question.

13 Q. So what kind of data was it specifically?

14 A. It was expenditure data on, I believe, inpatient drug
15 treatment under Medicaid.

16 Q. Did you do any extrapolations?

17 A. No.

18 Q. Did you do any standard deviation analysis?

19 A. I don't recall, but -- I don't recall, but having the
20 whole population such as not needed, I'm not -- I'm not taking
21 sample information and trying to infer something about the
22 population. If I'm looking at the whole population, one
23 doesn't need to do that.

24 Q. Now, if I understand your primary criticism of
25 Professor Duggan's work in this case, Doctor, it's that he

1 didn't pick a sample in a fashion that in your opinion is
2 consistent with statistical techniques and accepted procedures
3 and practices, correct?

4 A. I think that's fair to say, yes.

5 Q. And is there anything, any aspect of your opinion, with
6 respect to at least the matters in question in this Daubert
7 hearing, that is not based upon that preliminary opinion that
8 you hold that Dr. Duggan's selection of the sample was somehow
9 flawed?

10 A. I'm sorry, could you repeat that again?

11 Q. Is there any aspect of your opinions that you're giving
12 here in this Daubert hearing that is not based upon your
13 fundamental opinion that Dr. Duggan's sample selection was
14 fundamentally flawed?

15 A. Well, yes. The opinion regarding Medicare and the way
16 that the difference is calculated and the way that the
17 differences are aggregated in the extrapolation that he uses,
18 that goes beyond sampling because the idea is, he is
19 extrapolating based on whether he sees an Abbott AWP as the
20 allowed amount or not, and the point is, is that I don't care
21 if he sees an Abbott AWP in every -- as every allowed amount.
22 What matters for the difference, what matters for the
23 difference that he calculates when he has the data is that it
24 matters as to what else is in the array. And in his
25 extrapolations, he has no way of knowing that, and he has no

1 way of assessing at all whether or not his numbers are accurate
2 or not because of the nature of his damage calculation.

3 Q. So if I'm hearing you correctly, what you're saying is
4 that Dr. Duggan has no way of knowing for sure that Abbott
5 prices were in the array of the carriers and the arrays that
6 were conducted for the population outside of his sample? Is
7 that what you're saying?

8 A. No, I'm sorry, that's not what I was saying at all. What
9 the major criticism -- I mean, I have a problem with that as
10 well, but that's not really what this hearing is about. The
11 problem is not that he finds what he believes to be an Abbott
12 AWP as the paid amount. That's something we can argue about.
13 But what drives the difference calculation that he does is not
14 just the presence of the Abbott AWP but the other manufacturers,
15 the number of other products. What drives his difference
16 calculation is what else is in the array. What else is in the
17 array is highly variable. So given that high variation, to
18 extrapolate the difference calculations that he's done where he
19 has the arrays to places where he doesn't have the arrays is
20 totally speculative because he knows that how the arrays are
21 constructed varies greatly from the stuff that he has. There's
22 every reason to believe they're going to vary greatly in the
23 stuff that he doesn't have. And so to extrapolate from one
24 uncertain -- not uncertain, excuse me -- one highly variable
25 set of arrays which he summarizes in a single number, to take

1 that and extrapolate to these other arrays where there's all
2 sorts of other unknown things going on, again highly variable,
3 to me is invalid.

4 Q. All right. So if I understand your opinion then now, if
5 you look at his sample, are you saying you see a high degree of
6 variability, and therefore it should not be used to extrapolate
7 to the universe as a whole because there's too much
8 variability? Is that what you're saying?

9 A. Again, as I said earlier on a couple of occasions, what
10 matters for the validity of your sample is the underlying
11 variability in the population, the sampling method. You know,
12 all of those things that cause the non-sampling variation are
13 present in Dr. Duggan's methodology, which in my opinion
14 renders his inferences about the wider population of Medicare
15 and Medicaid claims, renders those inferences invalid.

16 Q. Understand, I'm only talking about the part of your
17 opinion that you testified in response to my earlier question
18 that is not based upon your criticism of Dr. Duggan's selection
19 of a sample, and what I'm hearing is that that aspect of your
20 opinion is based upon your opinion that there's too much
21 variability in the sample arrays to draw conclusions to the
22 rest of the population. Is that correct?

23 A. Okay, so as I was explaining to the Court earlier is that
24 if you have a nonrandom sample, if you have a convenience
25 sample, and in that convenience sample there's very little

1 variability and there's other information like hypothetically
2 that CMS tells everybody to do the arrays the same way, or CMS
3 tells everybody to reimburse for Medicaid exactly the same way,
4 if you have a small unrepresentative, nonrandom sample, but you
5 see very little variation in how people are doing things, then
6 you can make a logical but non-statistical argument that, okay,
7 if this set of four carriers is doing everything exactly the
8 same, it stands to reason -- doing exactly the same thing
9 within carriers and across carriers, well, then you can make
10 the logical argument that, yes, I could extrapolate with some
11 validity to the others because it's reasonable for me to
12 presume that they're also doing the same thing.

13 However, when you have the information that you have
14 and that shows a high degree of variability, that is what
15 raises -- that's what emphasizes the concern over the fact that
16 your sample was chosen in a completely ad hoc fashion; and that
17 for Dr. Duggan to make the claim that sometimes in Medicare and
18 Medicaid one state is plenty representative to extrapolate
19 from, and another times three states is okay, and other times
20 five states is okay, and then sometimes I have ten states and
21 that's okay, well, again, if you had very little variation in
22 his DIFF-FRACs, we might be able to make that logical argument.
23 But the lack of attention to the quality of his sample combined
24 with the variability that we do see in the sample raises the
25 red flag that inferences from this sample to the population are

1 not going to be valid.

2 Q. All right, then, are you saying that your opinions in this
3 case are based upon two things, as far as the Daubert hearing
4 goes: One, you're criticizing Dr. Duggan's selection of his
5 sample; and, two, when you test the sample, you find that it's
6 got too much variability to draw the conclusions that he
7 desires to draw to the rest of the population for Medicare and
8 also Medicaid?

9 A. Those are two of them, and then the other one, of course,
10 is that he provides, contrary to standard economic and
11 statistical practice, he provides no measures whatsoever of the
12 variability or the sensitivity of his estimates. He provides
13 no statistical measure of the accuracy of his estimates, which
14 is, to me, just totally in violation of anything that one would
15 do as a professional economist.

16 Q. You testified extensively this morning about the
17 variability that you see in the sample, the sample values,
18 correct?

19 A. Yes.

20 Q. And you prepared or had prepared a number of charts that
21 were designed to demonstrate that to the Court, correct?

22 A. Correct, and just let me correct your question a little
23 bit. You said sample variables, which doesn't mean much to me.
24 What those charts referred to were Dr. Duggan's -- the
25 variability in Dr. Duggan's calculated DIFF-FRACs.

1 Q. Okay. Now, those charts, when did you prepare them?

2 A. Pardon me?

3 Q. When did you prepare those charts?

4 A. When?

5 Q. Yes.

6 A. After the first of the year, several conference calls with
7 HealthScape, and somewhere along the line, these were the ones
8 that I decided that I wanted to have.

9 Q. When did you first conduct your analysis and critique of
10 Dr. Duggan's opinions in this case?

11 A. Whenever my report was filed. I don't remember. Over a
12 year ago.

13 Q. Over a year ago. You recall having your deposition taken
14 on a number of occasions back in June?

15 A. It sounds about right, yes.

16 Q. And I had the honor of taking those depositions, did I?

17 A. Yes, you did.

18 Q. Had you prepared any charts or variability analysis as of
19 that time?

20 A. No, I had not.

21 Q. Yet your opinions were basically the same then as they are
22 now, correct?

23 A. Yes, they were.

24 Q. As a matter of fact, at the time that we took your
25 depositions, you had not done any statistical analysis

1 whatsoever to test Dr. Duggan's opinions in this case, had you?

2 A. I had not prepared any slides or anything like that, but
3 at the time of my deposition, I certainly looked at at least
4 some of his individual DIFF-FRACs that had been calculated for
5 individual states, and came to the conclusions, like, wow,
6 these things are all over the place.

7 Q. Can you tell us what the formula is for calculating the
8 standard deviation of values in a sample?

9 A. It is the sum of square deviations from the mean divided
10 by generally n minus 1, n being the sample size, and then you
11 take the square root of the entire quotient.

12 Q. And what do you mean by "deviations from the mean"?

13 A. Standard deviation is basically a measure of how far you
14 would expect an observation to be from the mean of that set of
15 observations.

16 Q. So that the deviation from the mean or the distance from
17 the mean is only one part of the standard deviation formula,
18 correct?

19 A. Correct.

20 Q. And, as a matter of fact, it's only one part of the
21 formula for calculating the variance, correct?

22 A. Yes, correct.

23 Q. What is the formula statistically for calculating
24 variance?

25 A. It's what I just said before but not taking the square

1 root.

2 Q. Everything but the square root?

3 A. Correct.

4 Q. Okay. So, again, the deviation from the mean is only one
5 factor in calculating the variance, correct?

6 A. The standard deviation is a combination of the sum of
7 square deviations from the mean and the sample size.

8 Q. Now, at the time that we took your deposition or up to
9 that point in time, had you provided us with any calculations
10 or demonstrations that you had actually applied the variance
11 formulas or the standard deviation formulas to Dr. Duggan's
12 work in order to ascertain whether there was, in your opinion,
13 excessive variability?

14 A. At that time I had not done such calculations, no.

15 Q. So you just looked at it and said, "In my opinion, there's
16 too much variability here," correct?

17 A. I think that's a fair assessment, yes.

18 Q. And you never once applied the most fundamental
19 statistical formulas which are designed to specifically
20 calculate variability, correct?

21 A. Well --

22 THE COURT: Well, have you done it now?

23 THE WITNESS: Yes, I've done it now.

24 Q. When did you first do it?

25 A. As I said, after the first of the year.

1 Q. After the 6th of January?

2 A. I don't know the exact date. After the first of the year.
3 Well, let's just say after the 1st of January.

4 THE COURT: Have you provided that data to the
5 plaintiffs?

6 THE WITNESS: Yes.

7 Q. Now, the charts you testified about earlier today, though,
8 they didn't represent the standard deviation or the
9 statistically calculated variance of any of these distances
10 from the mean, did they?

11 A. No. Those were only the minimum, the maximum, and the
12 mean.

13 Q. So can you tell us if there were any kind of groupings or
14 anything, close to the maximum or close to the mean, that would
15 assist the Court in determining whether in fact there is
16 excessive variability in Dr. Duggan's sample sizes from a
17 statistical perspective?

18 A. I'm sorry, could you just repeat the question.

19 Q. Well, your charts that you showed the Court today --

20 A. Yes.

21 Q. -- you would agree that, statistically speaking, those
22 didn't show the Court anything about the statistical variance
23 or the statistical standard deviation, did they?

24 A. That's right. There was no statistical measure in there.

25 They were just measures of the minimum and maximum DIFF-FRACs

1 as calculated by Dr. Duggan.

2 Q. So as a statistical expert who knows that variability has
3 got to be expressed in terms of the calculated variance or the
4 calculated standard deviation, you know that those charts do
5 not demonstrate variability from a statistical perspective,
6 don't you?

7 A. They give the observer an idea of the variability, but
8 they do not provide any sort of statistical measure.

9 Q. And if I as one of your statistics students were to
10 prepare a chart like that and bring it to you and say, "I have
11 now proven the variability in Dr. Duggan's study," and I gave
12 you those means maximum and minimums and draw a bunch of lines
13 on it and said, "Give me an A, this shows the variability using
14 sound and accepted statistical measures," what would you tell
15 me?

16 A. I would tell him to go back and do the standard
17 deviations.

18 Q. Go back and do the standard deviation, okay. So you would
19 agree that those charts you showed the Court today do not
20 statistically demonstrate the variance at all?

21 A. Okay.

22 Q. Would you agree with that?

23 A. I would agree with that.

24 Q. All right, now --

25 A. Okay, but, Mr. Breen, I'm feeling a little whipsawed here

1 because all the things that you're saying I didn't do I did do.
2 You petitioned the Court not to accept them. So they're there.
3 We could have gotten into it, but because of your petition and
4 my reluctance to want to come back here again or for Dr. Duggan
5 to come back here again, counsel apparently chose not to go
6 there because, as he said, he didn't need the argument. So
7 these things were done, and they form the basis -- they helped
8 to form the basis of my opinion.

9 Q. We'll get back to that.

10 A. Okay.

11 Q. Let's go back, though, to some of the fundamentals that
12 you testified about earlier today. If I heard you correctly,
13 in response to her Honor's questions, you testified that even
14 in the case of a nonrandom sample, if you test it statistically
15 and you find that there's small variability, then you can
16 determine that the sample itself, albeit nonrandom, may be
17 representative; is that correct?

18 A. I don't know exactly what the quote is from --

19 THE COURT: Is that true?

20 THE WITNESS: Is what true?

21 THE COURT: Regardless of what you did say, is what he
22 just said true?

23 THE WITNESS: Okay, well, then you're going to have to
24 give it to me again. I'm sorry.

25 Q. All right, let's do it this way. Isn't it a fact, Doctor,

1 that if I had a nonrandom sample, and I test it statistically
2 using proper statistical techniques, variance, standard
3 deviation and others, and I find that there is a small
4 variability, then I may conclude that the sample is
5 representative, albeit nonrandom?

6 A. No, I would not agree with that.

7 Q. You would not agree with that?

8 A. I would not agree with that.

9 Q. So --

10 A. What I was getting at, as I just said a little while ago,
11 that if the variability is small, the nonrandomness of the
12 sample may not matter. And so as a logical conclusion, you can
13 say, well, the ones I observe are very tightly bunched. If I
14 don't have any reason to think that the others are different,
15 the ones I don't see are different from the ones I do see, then
16 as a logical conclusion, you could argue that the sample I have
17 is representative of the wider population. But as a matter of
18 statistics, you're only supposed to make inferences using means
19 and standard deviations from random -- those formulas that you
20 use are only derived for valid random samples.

21 Q. Let's go back to Page 261 again of Tab 3, the Statistics
22 for Lawyers.

23 MR. BREEN: And, your Honor, do you still have that up
24 there?

25 Q. And you quoted from this under "Non-Sampling Variability,"

1 the second paragraph: "A common misconception is that a
2 sample's precision depends on its size relative to the size of
3 the population. In this view, samples that are a tiny fraction
4 of the population do not provide reliable information about
5 that population. The more correct view is that if a population
6 can be sampled correctly, a difficult task for large and
7 diverse populations, the precision of the sample depends
8 principally on the variability of the population, to a lesser
9 extent on the sample size, and perhaps most importantly on the
10 avoidance of defects that create non-sampling variation."

11 Did I read that correctly?

12 A. You did.

13 Q. Isn't the purpose of this statement to explain to the
14 reader that in a random sample, you can select a small sample
15 size, and as long as it meets those other criteria, it may be
16 representative, albeit very small?

17 A. That's correct.

18 Q. So this paragraph is not talking about large nonrandom
19 samples. It's talking about small random samples, correct?

20 A. No. It's talking about "A common misperception is that a
21 sample's precision depends on its size." And so what is
22 written here, "Samples that are a tiny fraction of the
23 population, if it's sampled correctly, can be valid." The
24 converse is also true: A large sample improperly drawn, a
25 large sample that contains defects in the sampling frame, a

1 large sample that contains defects in the method of selection,
2 a large sample that contains defects in the collection of data,
3 will not be valid. The converse of what they're saying here is
4 also true, and that's --

5 Q. Where do they talk about large samples, large nonrandom
6 samples in this section?

7 A. "A common misperception is that a sample's precision
8 depends on the size relative to the size of the population."
9 The converse of what they're saying, if small random samples
10 are valid -- again, the size doesn't matter. An invalid sample
11 is an invalid sample regardless of the size, Mr. Breen.

12 Q. Would you go to the same tab but Page 21. In the bottom
13 there's a section called --

14 THE COURT: I have numbers a lot higher than that.

15 MR. BREEN: Well, your Honor, there should be a
16 blue -- and then right behind that, 21.

17 Q. The last entry or the last heading on that page, could you
18 read what the heading says.

19 A. Yes, "The law of large numbers."

20 Q. Do you know what the law of large numbers is?

21 A. Yes, basically.

22 Q. What is it?

23 A. As the sample size increases, the sample mean converges to
24 the true mean of the population.

25 Q. That means bigger is better, correct?

1 A. But, again, you're forgetting that this is part of a
2 bigger book. Let's just read what it says here: "Recall the
3 law which states that sample size increases the probability
4 that the sample mean will differ from the true mean by any
5 non-given zero amount," and then of course we don't have the
6 rest of it. But this applies only in valid samples.

7 So, again, to take my rich person/poor person, 50 people
8 in the room, if I take the 25 richest people and I draw
9 repeated samples from the 25 richest people, calculate their
10 mean income, do that a hundred times, do that a thousand times,
11 do it as many times as you want, that mean of an improperly
12 drawn sample will, even if you do it a million times, not
13 converge to the mean income of the entire population because
14 the sample was chosen improperly because I chose the 25 richest
15 people.

16 Q. Does the law of large numbers apply to nonrandom samples?

17 A. No.

18 Q. So it's your testimony that the law of large numbers is in
19 no way applicable to nonrandom samples? Is that your
20 testimony?

21 A. I am saying that what it says here for the law of large
22 numbers, that the sample mean will differ from -- that -- well,
23 as I understand the law of large number, sample size increases
24 the probability that the sample mean will differ from the true
25 mean. When they use the word "sample" in the law of large

1 numbers, they are referring to a statistically valid sample.

2 Q. So when they use the word "sample" in the law of large
3 numbers -- and don't limit yourself to this book because this
4 book is just to help lawyers out, right? I mean, you're an
5 expert --

6 THE COURT: That's okay.

7 MR. BREEN: Your Honor? Sorry. It is, but I'm just
8 saying I don't want the witness --

9 THE COURT: Do you agree it's a learned treatise that
10 I can rely on, if I have it in my library?

11 MR. BREEN: I haven't seen anything in here, your
12 Honor, that I would object to, no. I think it's helpful, but
13 it's just that this is not complete, and the witness may well
14 know more than the book says.

15 THE COURT: I just have had other statistical Daubert
16 hearings, and when I go to pure statistical texts, they
17 sometimes don't speak to me, so if this is acceptable to you, I
18 might just try and find it.

19 MR. BREEN: Your Honor, I have a confession to make.
20 I would recommend Statistics Demystified.

21 THE COURT: Statistics for Dummies? No?

22 MR. BREEN: Not that one, your Honor. Statistics
23 Demystified was also helpful.

24 Q. But, any, let me get back to this question. Doctor, the
25 law of large numbers, you knew about it before you saw it in

1 the book, obviously. It's a law of statistics, correct?

2 A. Yes.

3 Q. It's not just a theory; it's a law, correct?

4 A. Yes.

5 THE COURT: What's the law again, the law of large
6 numbers?

7 MR. BREEN: The law of large numbers.

8 THE COURT: Is that the term for it, what people call
9 it?

10 THE WITNESS: It is.

11 THE COURT: Okay. So you tell me, what is the law of
12 large numbers, and where can I find it? Would I find it in the
13 next few pages of this book?

14 THE WITNESS: Yes. Actually, it would probably finish
15 on Page 22. It's not a tough concept. It's just simply, if
16 you have a population, the idea of sampling is, you draw
17 repeated samples from the population. So if you're drawing
18 those samples randomly, so I have 100 people, I draw a sample
19 of 10 people, take the mean, the idea --

20 THE COURT: So, in your view, just sort of coming back
21 to it, the law of large numbers only applies to random samples?
22 Is that your point?

23 THE WITNESS: That's my point, yes.

24 Q. So is it your opinion that the law of large numbers only
25 applies to random samples, and that professional

1 econometricians could not differ on that opinion?

2 A. I don't -- I haven't polled professional econometricians,
3 and I'm not an expert on the law of large numbers, but, again,
4 I'm saying -- I'm not saying random. I'm saying statistically
5 valid sample. And by statistically valid sample, what I mean
6 by that is where the sample mean is an unbiased estimator of
7 the population mean.

8 Q. Okay. Now, let's move up a little bit here. When we talk
9 about the law of large numbers, we're talking about the number
10 of what, observations or values that are being statistically
11 analyzed?

12 A. You're talking about -- the large number is the sample
13 size, is the large number that we're talking about.

14 Q. And the sample size is what? What is the sample size?
15 This is real basic, but what's in the sample size? When we say
16 numbers, we're talking about numbers of what?

17 A. Okay, the sample size is the draws that you've made, the
18 observations that you've taken from the population.

19 Q. Okay. And typically you take that from the part of the
20 population known as the sampling frame, correct?

21 A. Yes.

22 Q. And in this case, Dr. Duggan's sampling frame was
23 initially the ten states, correct?

24 A. No. I wouldn't agree with that at all.

25 Q. You wouldn't agree with that, okay. Well, he used ten

1 states, didn't he?

2 A. He did use ten states.

3 Q. And those ten states represented approximately 70 percent
4 of the dollars expended by Medicaid for the 44 NDCs at issue in
5 this case, correct?

6 A. Uh-huh. Ten states chosen partly because they were the
7 ten highest expenditure states, not a random sample of states
8 by expenditure. Not every claim, not every observation had an
9 equal probability of being in his sample, so it was truly a
10 sample of convenience.

11 Q. My question is, did it represent approximately 70 percent
12 of the Medicaid expenditures nationally for the drugs at issue
13 in this case, the 44 NDCs?

14 A. I'm sorry, I'm fading here. Could you just repeat that
15 for me, and I apologize.

16 Q. Sure. Did Dr. Duggan's nonrandom sample include
17 approximately 70 percent of the Medicaid expenditures for the
18 44 NDCs at issue in this case?

19 A. Yes. That's my understanding. And if his sample had been
20 70 percent of the Medicaid claims from all 50 states,
21 70 percent from Maine, 70 percent from Massachusetts,
22 70 percent from California, 70 percent from Hawaii, Alaska,
23 et cetera, we wouldn't have this problem. But the question is,
24 is the mean that you calculate from his sample going to be an
25 unbiased estimator of the population mean, given the way that

1 he took the sample, which is whatever data happened to be
2 around? And, again, remember, it's not ten states all the
3 time. It's ten states for five quarters. Sometimes it's only
4 one state. But, yes, it accounted for 70 percent of the
5 claims, but that doesn't mean that averages and means
6 calculated from that set are at all representative of the rest.

7 Q. Of the other 30 percent?

8 A. Of the other 30 percent, yes.

9 Q. But I think you testified that you did do some standard
10 deviation analysis of Dr. Duggan's work this year, correct?

11 A. Yes.

12 Q. For the first time?

13 A. Yes.

14 Q. And I believe you would do that because that is the only
15 way to determine statistically the variability of the
16 observations around the mean, and that's important to determine
17 whether a sample is representative or not, correct?

18 A. Could you -- that sounds like a compound question to me.
19 Could you break that up into a couple pieces for me?

20 Q. Did you do, finally, this year, do the standard deviation
21 analysis in order to determine the variability of the data in
22 Dr. Duggan's sample?

23 A. Yes.

24 Q. And is that important because that's at least one
25 indicator of whether the sample is or is not going to be

1 representative?

2 A. It's an indicator of the variability of the observations
3 within his sample, and it's one way of doing it. You can also
4 do it with the minimum and the maximum, which the Court has
5 seen.

6 Q. Okay. Now, getting back to the law of large numbers, if
7 you're going to do a standard deviation analysis or a variance
8 analysis, is it better to have more numbers or less numbers in
9 order to get the most precise result?

10 A. In the way you phrased the question, anytime you go
11 through that exercise, the more observations you have, the
12 bigger your denominator is, the smaller the standard deviation
13 becomes. That's not the point. The estimate of the standard
14 deviation, you take each observation -- and, your Honor,
15 actually, this is important, okay? -- you take each
16 observation, and from that you subtract the mean, all right.
17 Then you square that, then you divide that, you sum all of
18 those up, and you divide that by your sample size.

19 Here's the thing: That measure of standard deviation
20 cannot be an accurate representation of the population standard
21 deviation if the mean that goes into that calculation is not an
22 accurate representation of the underlying population mean. My
23 big point is that because he has a nonrandom, nonrepresentative
24 sample, his sample mean is not what we call an unbiased
25 predictor of the population mean.

1 THE COURT: But my big point back to you is, how do
2 you know that?

3 THE WITNESS: Because of the way he chose his sample.

4 THE COURT: He didn't choose his sample.

5 THE WITNESS: Okay, better still for my point.

6 THE COURT: I mean, I know you view it as nothing more
7 than sweepings, but assume it's 70 percent --

8 THE WITNESS: It does not matter.

9 THE COURT: Excuse me.

10 THE WITNESS: I'm sorry.

11 THE COURT: It's 70 percent, it's huge, and he comes
12 up with the mean, what I didn't find persuasive is when you
13 said to me, even if I had 90 percent or 95 percent, it wasn't
14 enough. So, I mean, there's some number at which it's enough.
15 And your position is zero, no choice; basically, you commit a
16 fraud, off the hook even if we have 95 percent of the data.
17 That's your position to me before. That didn't seem persuasive
18 to me intuitively, okay. So now I'm trying to figure out,
19 well, is 70 percent enough? Well, what's enough, if I'm not
20 finding any reason why it's not a representative 70 percent?

21 THE WITNESS: Has he given you any reason to say it is
22 a representative 70 percent?

23 THE COURT: Suppose we look across the states, and
24 basically it's a fairly similar way of calculating. You know,
25 you pluck out the Ohios, you pluck out the odd balls, nothing

1 against Ohio. There may be a couple of others that are in
2 there, I don't know. But let's suppose I make a factual
3 finding that the states are representative, why isn't that good
4 enough, 70 percent?

5 THE WITNESS: Well, with all due respect to the Court,
6 your determination that a sample is representative may not be a
7 statistical --

8 THE COURT: All right, so tell me why I'm wrong. Why
9 isn't that a factual decision for me? That's where I'm not
10 understanding because you don't -- it's apparent to me from the
11 direct that you haven't really studied the facts of this case.
12 You're coming here as a statistics expert from Bates College,
13 and you don't have that much experience in Medicaid and
14 Medicare, so you're making certain assumptions that the
15 defendants are going to win the day that it isn't
16 representative. And maybe they will. Maybe I'll agree with
17 them. Maybe there are too many idiosyncrasies and factual
18 differences among the states, that they're dead on right. But
19 if I find that the plaintiffs are right and they're
20 representative, why isn't this valid statistics?

21 THE WITNESS: Okay, let's try this: I have 1,000
22 people. That's my population, 1,000. So I'm defining my
23 population to be some thousand --

24 THE COURT: 1,000 out of 1,200.

25 THE WITNESS: That's not the point I want to make.

1 THE COURT: Okay, all right, go ahead.

2 THE WITNESS: And let's say that the average income
3 across those 100 people is \$50,000.

4 THE COURT: 1,000 or 100? I'm sorry. I may not
5 be focusing --

6 THE WITNESS: Let's say I have 1,000 people, and the
7 average income is \$50,000, across the entire population, this
8 1,000 is my entire population, okay?

9 THE COURT: Okay. The mean is \$50,000 income?

10 THE WITNESS: That's correct.

11 THE COURT: Okay.

12 THE WITNESS: Okay. Now, I divide them up. I take
13 the poorest people over here, and let's say there's 500 of
14 them, and their average income is \$25,000. The other 500 are
15 the richest people, and their average income is \$100,000.

16 Now, Dr. Duggan and Mr. Breen and I would all agree
17 that if you took a random sample from the whole 1,000, the
18 entire population -- and this is what Mr. Breen is getting at
19 with the law of large numbers -- if I took a sample 10 at a
20 time, calculated the mean income, took a sample then 20 at a
21 time, the bigger that sample gets, the closer the mean of that
22 sample will get to the true population mean of 50,000. It only
23 makes sense, your Honor, because --

24 THE COURT: That's the law of large numbers.

25 THE WITNESS: That's law of large numbers, and it

1 makes sense because at some point I'll get to 1,000, my sample
2 size will be 1,000.

3 THE COURT: Sure. My point is, if you had 900 of
4 them --

5 THE WITNESS: Now, okay, what if you only have the 50
6 richest, the people whose average income is \$100,000?

7 Mr. Breen's law of large numbers, if I'm just looking at -- if
8 I have a sample nonrandomly drawn, only picking the biggest
9 one --

10 THE COURT: Because I'm cherry-picking with those in
11 mind, right? I'm picking --

12 THE WITNESS: Picking them, okay, but what I want to
13 say is, anytime you take a sample, you want to make an
14 inference about the population. We want to make an inference
15 about what is the mean income of these 1,000 people. My point
16 is, your Honor, you can take as many draws, as big as you want,
17 from those 500 people with an average income of \$100,000, and
18 that average will never ever, even when you get to --

19 THE COURT: Okay.

20 THE WITNESS: Please let me finish my point.

21 THE COURT: All right, go ahead.

22 THE WITNESS: Even as I expand my sample size to the
23 full 500, that mean will never converge to the \$50,000
24 population mean. It is a biased estimator of the population
25 mean because it was drawn from a nonrandom sample.

1 THE COURT: But suppose you were to not cherry-pick
2 the 500 richest people, and you were to just happen to have,
3 because that's the data you happened to have, 900, would you
4 say that that mean would be representative of the 1,000?

5 THE WITNESS: If the "just happened to have" were
6 random, yeah, that would be an unbiased estimator.

7 THE COURT: All right, so what you're saying is that
8 by picking the ten most --

9 THE WITNESS: Convenient.

10 THE COURT: -- heavily spending states, it's
11 equivalent to my picking the 500 richest people? That's your
12 core point?

13 THE WITNESS: Correct.

14 THE COURT: All right.

15 MR. BREEN: If I could just kind of -- I know we've
16 got to stop at 12:30, Judge?

17 THE COURT: Yes, I just have to for a phone call. It
18 doesn't mean you have to finish. I'm not sure I agree with the
19 premise, but I understand it now.

20 MR. BREEN: I want to move to another point, but I
21 didn't want to jump in if --

22 THE COURT: No, no, that's okay.

23 Q. Are you ready?

24 A. Yes, I am. Thank you.

25 Q. Okay. The sample size we're talking about here is 44 NDCs,

1 right, times 44 quarters, correct?

2 A. That's the numbers, yes.

3 Q. Times ten states and then another nine states, correct?

4 A. That's the sample that we're talking about?

5 Q. Well, that's the number of either DIFF-FRACs that he had
6 or that he interpolated to, correct?

7 A. No, sir.

8 Q. How many then?

9 A. Well, he does an extrapolation for each NDC quarter, so
10 he's doing -- so the sample is not every NDC quarter for every
11 drug. He's not using any claims from one NDC to extrapolate to
12 a different NDC, which is what it sounded like one would do
13 with the sample that you were talking about.

14 Q. But you don't know really how big the sample size is
15 sitting here right now?

16 A. I don't know the -- I don't know -- excuse me. I don't
17 know what sample of what it is that you're asking me about.

18 Q. Well, let's try something else.

19 A. No, let me -- you've asked a question. Let me --

20 Q. I'll withdraw the question. I want to move on.

21 A. Okay.

22 Q. The next nine states --

23 MR. BREEN: May I approach the witness, your Honor,
24 and hand him an exhibit, and the Bench. I would ask that this
25 be marked as the next exhibit. I guess it would be 2 because

1 the first one was the binder.

2 THE CLERK: It would be Exhibit 7. We've just been
3 going chronological regardless of who submitted it.

4 (Exhibit 7 received in evidence.)

5 Q. Doctor, did you prepare this chart or have it prepared
6 under your direction?

7 A. No. I've never seen this before.

8 Q. Do you know that it was provided by your counsel, by
9 counsel for Abbott prior to this hearing?

10 A. No. I don't know anything about this.

11 Q. Are you aware of whether or not anybody working with you
12 in the economics expert area in this case looked at the
13 additional hard claims that were paid by the new nine states to
14 test the actual differences and compare them with Dr. Duggan's
15 extrapolation?

16 A. If they weren't doing something for me, I don't have any
17 particular knowledge about what else they were doing, so that
18 would make the answer "no." I mean, this isn't my analysis, so
19 I would hesitate to speak to it at all.

20 Q. Well, in preparing after the hearing, the beginning of the
21 Daubert hearing back in December, did it ever occur to you that
22 since Duggan had another nine states, that it might be a good
23 idea to check and see how he used those to test his
24 extrapolation?

25 A. I mean, I'm aware of what Dr. Duggan did, but I am not

1 familiar with this exhibit at all.

2 Q. Well, would it surprise you that when they looked at the
3 actual hard claims that they got from the next nine states --
4 the hard claims, not the ones that he had to interpolate to but
5 the hard claims -- that those claims represented about
6 two-thirds of his claims paid by the next nine states; that
7 when they looked at the actual claims and compared them with
8 the differences that Dr. Duggan or the alternative prices that
9 Dr. Duggan calculated, applying his methodology, that the
10 actual number was less than 2 percent from what Dr. Duggan had
11 extrapolated for those states?

12 A. I'm not aware of that. I don't -- again, I just have to
13 repeat, this isn't my exhibit. I don't know anything about
14 this analysis, so I cannot confirm or not confirm any claim
15 you're making about this analysis because I didn't do it.

16 Q. Okay. Dr. Duggan took the claims data from nine more
17 states and tested his extrapolation, correct?

18 A. That's what I understand, yes.

19 Q. And the fact of the matter is that Dr. Duggan's model in
20 this case was replicable by you and the people operating under
21 you, correct?

22 A. Yes, I understand from having his work files and
23 et cetera, yes.

24 Q. And it was testable using statistical and arithmetic
25 techniques, correct?

1 A. Not to the extent he doesn't have a random sample, no.

2 Q. But you could test it by doing your own standard deviation
3 analysis if you wanted to, like you eventually did this year,
4 correct?

5 A. Yes, to get an idea of what the variability in his
6 calculation of the mean DIFF-FRACs were, yes.

7 Q. Okay.

8 A. But as to this, again, I don't know anything about this
9 exhibit.

10 Q. And, by the way, all the claims data that Dr. Duggan had
11 access to, including for the next nine states, you had access
12 to it also, didn't you?

13 A. Yes. It was available to our side, yes.

14 Q. But Abbott never directed you to take that claims data and
15 actually test Dr. Duggan's model, did they?

16 A. The point once again is, is that test what? Is that
17 you're using -- his state states are a convenience sample. The
18 next nine adds to a bigger convenience sample. All of the
19 issues that I have with the validity of the sample, all of my
20 testimony about the irrelevance of how many claims he has as a
21 fraction of the total claims all stands, whether it's the
22 ten-state analysis or the additional nine-state analysis. So
23 it wasn't something that I needed to do to form my opinions.

24 Q. I mean, the new hard claims comparison was only off less
25 than 2 percent. It wouldn't have made any difference to you if

1 it was exactly on target with the extrapolation and not off
2 zero percent, would it?

3 A. The point is not --

4 Q. Would it?

5 A. Pardon?

6 Q. Would it? It wouldn't make any difference to you if when
7 he went ahead and tested the hard claims from nine more states,
8 it wouldn't have made any difference to your opinion if it was
9 exactly the number that he had extrapolated?

10 A. Well, I mean, it wasn't --

11 Q. Would it?

12 A. It wasn't exactly the number because he was off in Iowa or
13 Utah or one of these states by up to 40 percent. His new work,
14 the comparison of his extrapolations on a state-by-state basis
15 was in many cases very, very, very widely inaccurate.

16 So the point is, okay, if he could do nine more states and
17 now he has the actual state claims analysis of that, fine,
18 good. Maybe I would ask, why didn't he do it before? But that
19 still doesn't say anything about the accuracy and the
20 reliability of the extrapolations to the rest of the population
21 because, again, the nine states are more of the same: It's
22 just the data that happened to be around. There's no claim,
23 there's no reason to believe that they're representative.

24 Q. My question is, Doctor --

25 THE COURT: You just need to make this the last

1 question because I need to go up and take this call now.

2 Q. Isn't it true that you could have tested Dr. Duggan's
3 extrapolation results using these nine states or some of the
4 other states for which hard data was available, correct?

5 A. That could be done, yes.

6 Q. And you didn't do it, did you?

7 A. I did not.

8 MR. BREEN: Thank you.

9 THE COURT: Are you done?

10 MR. BREEN: I'm not sure, Judge.

11 THE COURT: How much longer do you think you have?

12 MR. BREEN: It won't be more than ten or fifteen
13 minutes if I'm --

14 THE COURT: Yes, but this went a lot longer than you
15 thought it would.

16 MR. BREEN: It did.

17 THE COURT: So let me put it this way: We're
18 finishing this today. I've given you a full day rather than a
19 half a day. You'll have five more minutes, five minutes
20 redirect, five minutes recross, and then we're going to Young.

21 MR. BREEN: Okay.

22 THE COURT: And then we're going to divide it up. I
23 want Dr. Duggan on by 4:00, so it will be a half an hour for
24 whatever rebuttal, and any cross on that, a half an hour. So
25 we'll be back here at 1:30.

1 MR. BREEN: Very good, Judge.

2 THE COURT: Okay.

3 THE CLERK: Court is in recess.

4 (Adjourned, 12:29 p.m.)

5 (Resumed, 1:37 p.m.)

6 THE COURT: Okay, we all set?

7 MR. BREEN: We are, your Honor.

8 THE COURT: Do you need this chart anymore?

9 MR. BREEN: Not at this point. We will later, your
10 Honor. At this point, your Honor, we have no further questions
11 for Professor Hughes, and thank you.

12 THE COURT: Okay, good.

13 MR. TORBORG: Your Honor, I just have a couple of
14 follow-ups.

15 THE COURT: Okay.

16 REDIRECT EXAMINATION BY MR. TORBORG:

17 Q. Dr. Hughes, in connection with your work in critiquing
18 Dr. Duggan's difference calculation, have you opined on things
19 apart from the extrapolation?

20 A. Yes, I have, many.

21 Q. So the extrapolation is just one part of your opinions in
22 this case?

23 A. Exactly.

24 Q. And in connection with forming those opinions, what all
25 have you done?

1 A. I've reviewed the record. I've reviewed all the filings,
2 or at least I believe all the filings in the case, and all of
3 the state Medicaid representative depositions, many of the CMS
4 depositions. I figure I've probably reviewed forty or so
5 depositions and accompanying exhibits.

6 MR. TORBORG: I have no further questions.

7 THE COURT: That was useful. All right, thank you.

8 MR. BREEN: No recross, Judge.

9 THE COURT: Thank you very much, sir.

10 THE WITNESS: Thank you.

11 (Witness excused.)

12 MR. TORBORG: Okay, your Honor, we'd like to call
13 Steve Young.

14 STEVEN J. YOUNG

15 having been first duly sworn, was examined and testified as
16 follows:

17 THE CLERK: Would you please state your name and spell
18 it for the record.

19 THE WITNESS: Steven J. Young, with a V.

20 DIRECT EXAMINATION BY MR. TORBORG:

21 Q. Good afternoon, Mr. Young. Have you, like Dr. Hughes,
22 been retained by Abbott to serve as a testifying expert in this
23 case?

24 A. Yes, I have.

25 Q. And where are you currently employed?

1 A. HealthScape Advisors.

2 Q. And what kind of company is HealthScape Advisors?

3 A. It's a healthcare consulting firm.

4 Q. What is your position at HealthScape?

5 A. I'm a managing director and part owner.

6 Q. Do you have any professional designations?

7 A. Yes. I'm a certified public accountant licensed in the
8 state of Illinois.

9 THE COURT: You're from Illinois?

10 THE WITNESS: Yes.

11 THE COURT: Do you live there now?

12 THE WITNESS: Yes, I do.

13 THE COURT: So you have to get home too.

14 THE WITNESS: Yes. Well, eventually.

15 Q. How long have you been with HealthScape?

16 A. Since May of this year. We formed the company.

17 Q. Prior to that, where did you work?

18 A. I worked at Huron Consulting Group from May of 2002 until
19 forming HealthScape and headed up the health plan and
20 pharmaceutical practice within Huron Consulting.

21 Q. Prior to joining Huron, where did you work?

22 A. I worked at Arthur Andersen from my graduation in 1983
23 through 2002 when I went to Huron Consulting.

24 Q. What was your position at Arthur Andersen when you left?

25 A. Partner, and I was similarly in charge of the health plan

1 and pharmaceutical practice for the Chicago office.

2 Q. Can you give us a brief summary of the kind of work you've
3 been doing for the last ten years.

4 A. Yes. My work focuses almost exclusively on the healthcare
5 industry.

6 THE COURT: Excuse me. At Arthur Andersen, were in
7 the audit function, or were you a consultant?

8 THE WITNESS: I started out in audit, and then there
9 was a specialty consulting practice within the audit group, but
10 I only did audit for three years, and then I did government
11 contract consulting in the '80s, and then switched over and did
12 healthcare consulting, mostly related to government programs
13 but also related to commercial insurers and some commercial
14 issues as well.

15 Q. I think you were in the middle of telling us what kind of
16 work you've done for the last ten years or so.

17 A. Yes. I mean, primarily -- I have an accounting
18 background, obviously, so a lot of the work that I do is
19 quantitative in nature. Historically I've worked with
20 primarily health plans and with pharmaceutical companies.
21 Again, probably 80 percent of that has been related to
22 government programs. So on the pharmaceutical side, it's
23 really been analyzing large sales data sets for compliance
24 related to the Medicaid Rebate Act, the Veterans Health Care
25 Act, identifying best prices within the data sets and then

1 also --

2 THE COURT: So you're the guy who crunches those
3 numbers for the rebate agreements.

4 THE WITNESS: I am one of those guys that crunches the
5 numbers, or I fix the numbers after somebody else crunches them
6 and I find problems with them. But that's a lot of what I do,
7 so looking at the classes of trade and understanding
8 charge-backs and rebates, and what classes of trade are
9 considered in different calculations, things of that nature.
10 And then obviously I've also been, as you're aware, involved in
11 some of the AWP cases, have done a little bit of work on the
12 pharmaceutical side related to other contractual disputes
13 between PBMs and pharmaceuticals, or between pharmaceuticals
14 between one another, but the litigation portion of my work is
15 probably 20 percent in total.

16 And then on the health plan side, it's mainly related
17 to reimbursement-type issues. For various reasons but mainly
18 looking at overpayments and underpayments and trying to
19 quantify them, I've done that through usually a combination of
20 both data analysis and then some form of sampling and
21 extrapolation; but also do analysis to see when claim systems
22 aren't paying properly, when health plans are not complying
23 with state regulations or their interaction with the federal
24 government, and then trying to quantify the implications of
25 those situations.

1 Q. Mr. Young, what were you asked to do in this case?

2 A. I was basically asked to review Dr. Duggan's work from
3 kind of the healthcare perspective and from the perspective of
4 applying what I've seen historically related to overpayments
5 calculations, combined with a thorough review of the record to
6 understand the unique nuances of this case to come up with an
7 overall conclusion as to the reliability of Dr. Duggan's
8 calculations.

9 Q. Were you assisted by others in carrying out your
10 assignment?

11 A. Yes. My staff at both Huron and HealthScape supported me
12 at my direction.

13 Q. As you know, we are here today to talk about the
14 admissibility of some extrapolations that Dr. Duggan has done,
15 both across states, within states, across Medicare carriers,
16 and within Medicare carriers. Have you reached opinions
17 regarding the reliability of the assumptions and methodologies
18 that Dr. Duggan employed in doing those extrapolations?

19 A. Yes, I have.

20 Q. And what opinions have you reached?

21 A. Based on the information that I've been able to review, I
22 find his extrapolations to be unreliable and some of his
23 conclusions to be unsupported when he's trying to determine the
24 comparability of the populations.

25 MR. TORBORG: Your Honor, just so you know and have a

1 better idea of where we're going, Mr. Young is going to be
2 talking mostly about Medicaid. So if you see me going on and
3 on about Medicaid, don't worry, we're not going to have a
4 similar chunk of time for Medicare. So he's going to be
5 focusing mostly on Medicaid.

6 Q. You attended the first day of Dr. Duggan's testimony,
7 correct, Mr. Young?

8 A. That's correct.

9 THE COURT: Excuse me. But you're not a statistician?

10 THE WITNESS: No, I'm not a statistician. I apply
11 statistics related to my over- and underpayment calculations;
12 but when you get into the theory of why standard deviations are
13 these complex formulas, no.

14 THE COURT: So you're not providing statistical
15 opinions, is that right?

16 THE WITNESS: Only to the extent that based on the way
17 that I've seen the calculation done before and the guidance
18 that's been provided that people follow within the industry,
19 not related to the theory of the statistics, just whether it's
20 been consistent with what I've seen in the industry.

21 THE COURT: So I'm a little confused here. Is he a
22 fact witness?

23 MR. TORBORG: No, your Honor. He's going to address
24 some of the analysis that Dr. Duggan did by looking at some of
25 the underlying claims data to let us know if it makes sense or

1 not and whether it's reliable, actually crunching some of those
2 numbers and --

3 THE COURT: Right, so he just disagrees with the
4 calculations.

5 MR. TORBORG: No, it's not that he disagrees with the
6 claim-by-claim analysis. In particular, one thing he's going
7 to be talking about is, Dr. Duggan opined about this comparison
8 he did to assess the representativeness of the states, and we
9 have something to say about that analysis when you look
10 underneath the data, and that's something that Mr. Young has
11 helped us with.

12 Q. Do you recall that Dr. Duggan testified that he determined
13 that the 10 states were a representative sample of the entire
14 population?

15 A. Yes.

16 Q. And do you recall some of the things that he pointed to in
17 reaching that conclusion?

18 A. Yes, I do.

19 Q. And what do you recall?

20 A. His primary discussions centered around the fact that in
21 his Footnote 45 analysis, he compared the average claim value
22 for the 11 states to the 38 states -- or, I'm sorry, for the --
23 yes, well, at the time it was 11 -- Ohio was still in the
24 analysis at the time -- the 11 states to the 38 states, and
25 then determined that 24 of the NDCs actually had lower

1 reimbursements on a per-claim basis for the 11 states, and 20
2 had lower for the 38 states. Therefore, if anything, you know,
3 the reimbursements were lower in the source 11 states, and it
4 was therefore appropriate to do his extrapolation.

5 Q. Did Dr. Duggan point to the similarity of the adjudication
6 formulas, AWP minus 10, et cetera, across the states?

7 A. That's correct, that was another area that he talked about
8 that he believed supported the comparability of the two
9 populations and therefore the reliability of his extrapolation.

10 Q. Do you find the fact that states used similar adjudication
11 methodologies a sufficient basis to establish their
12 comparability for the purposes of Dr. Duggan's calculation?

13 MR. BREEN: Your Honor, just for the record, we would
14 object. This sounds like he's asking a statistical question in
15 terms of sufficient for comparability, so for the record we
16 would object. I don't think he's qualified to give a
17 statistical opinion.

18 THE WITNESS: I'm sorry, could you repeat the
19 question?

20 MR. TORBORG: Are you looking at me for a response?

21 THE COURT: Yes, yes.

22 MR. TORBORG: Okay, I wasn't sure. He is going to be
23 testifying, if you look at the data and if you look at what's
24 known in the industry about how generic drugs are reimbursed,
25 you can't just look at the adjudication formulas. And it's not

1 a --

2 THE COURT: That's actually a different question,
3 so --

4 MR. TORBORG: It's a different question than
5 statistics.

6 THE COURT: So ask it a little differently. Well, do
7 you think there are similar adjudication methodologies across
8 the states with the exception of, I suppose, Ohio?

9 THE WITNESS: No, not necessarily, because the problem
10 with it is that if there is an AWP-based formula, that's only
11 one element that really drives the comparability --

12 THE COURT: It's the "lower than," right?

13 THE WITNESS: It is the "lower than," but the
14 reimbursements can be drastically different, depending on their
15 use of the percentage of at-charges transactions, their
16 definition of at-charges transactions, the use of MACs --

17 THE COURT: The definition of what?

18 THE WITNESS: I'm sorry, the --

19 THE COURT: I didn't hear the word.

20 THE WITNESS: The definition of usual and customary,
21 the amount that the provider bills for the drug. Local
22 practices as to how the providers set their usual and customary
23 charges, there's pretty good studies, there's information to
24 show that it varies significantly from state to state and over
25 time.

1 THE COURT: So you think the big difference is how you
2 define usual and customary and what role it plays? Is that
3 what you're saying?

4 THE WITNESS: No. That's one of the elements. I
5 think the bigger element related to usual and customary is just
6 the way the local providers happen to do it in that state and
7 how low they tend to set their usual and customaries, and, you
8 know, that's indicated oftentimes by a greater percentage of
9 transactions at the usual and customary versus the AWP-based
10 formula that would indicate that they usually set their usual
11 and customaries lower. But it can also be related to
12 definition and --

13 THE COURT: Let me just say, in the rest of my
14 litigations, in the rest of the MDL -- I come to this as an MDL
15 judge -- the assumption has been that the usual and customary
16 is the highest possible charge; it's what they charge uninsured
17 customers, the pharmacy, the guy who walks in off the street
18 without health insurance, that it's typically the highest price
19 that's charged for drugs. Is that not how you're understanding
20 it?

21 THE WITNESS: Well, I'd say it a little bit
22 differently. They only charge one price. So it doesn't matter
23 whether you're a cash-paying customer or Medicare or Medicaid
24 or a commercial payor, they charge one price; and then a
25 cash-paying customer actually has to pay that price because

1 they don't have any negotiated discounts and they don't have
2 any regulatory structure.

3 THE COURT: Right, so it's typically the highest of
4 them.

5 THE WITNESS: It is, but oftentimes it falls below
6 what those other formulas come out to be. So, in other words,
7 if a pharmacy only charges \$10 and the AWP-based formula is
8 \$15, they only get paid \$10. They only get paid what they
9 charge. So if --

10 THE COURT: Right, but I was told -- and if the
11 assumption is wrong, you need to let me know -- that typically
12 the usual and customary is the highest number, it's higher than
13 AWP, or at least at AWP.

14 THE WITNESS: No, that's actually not the case.

15 THE COURT: You would say that's wrong. How do I know
16 that? Have you done a study of that?

17 THE WITNESS: Well, we've graphed out some results
18 that Dr. Duggan pulled together just for the nine states to be
19 able to show it, but I can also say that you can look at almost
20 any claims data set, and it will vary relatively significantly.
21 How often? And Dr. Duggan actually even talked about it a
22 little bit. If you aggregate all populations for all
23 situations across all 11 states and compare it to the 37,
24 25 percent of the time it's the lowest of the different
25 but-fors that are out there.

1 THE COURT: So you're saying the U and C, if you did a
2 "lower than" technology, is frequently the lowest?

3 THE WITNESS: It ranges between probably 20 and
4 60 percent of the time that it will be lower than the AWP-based
5 formula, or whatever the allowed amount is that the payor has
6 set in that situation.

7 THE COURT: Lower than the MAC and lower than the FUL?

8 THE WITNESS: Right.

9 THE COURT: You would say the U and C is?

10 THE WITNESS: Yes. And the way that you know is that
11 is, if the payor gets paid U and C, that by definition means it
12 must have been lower than what the other limitations were. I
13 mean, originally everybody used to pay the usual and customary
14 charge, and the evolution in the early '90s was that that's
15 when it moved to discounts off, and that's when they put AWP in
16 to limit that amount to try to hold down the amount that the
17 payors get charged.

18 THE COURT: Sure.

19 Q. Mr. Young, you referred to a report that discussed
20 variability of drug prices across the states?

21 A. That's correct.

22 Q. What report is that?

23 A. The OIG actually did a study of it in 2004, and the
24 findings of that study were consistent with my findings when I
25 analyzed the data in this case too.

1 Q. Have you prepared a slide that summarizes what you think
2 are the key points from that study?

3 A. Yes, I have.

4 Q. And is that in Tab 20?

5 A. That's correct.

6 THE COURT: How come it hasn't been produced?

7 MR. TORBORG: It's a summary of the report.

8 THE COURT: No. I strike it. No. We've played that
9 game. No, it's not coming out. You know, I've got to enforce
10 this at some level. I don't even know why it wasn't given to
11 them the first thing this morning. I mean, you can't just sort
12 of pull those things up.

13 MR. TORBORG: We weren't trying to -- this is a
14 demonstrative aid about something that's already in the record.

15 THE COURT: We just can't do this. Everyone's got to
16 disclose what one another has.

17 MR. DALY: Your Honor, not to quibble with your
18 ruling, but we did give it to them this morning, but I
19 understand the Court's ruling.

20 THE COURT: Well, in the sense it was part of this
21 binder.

22 MR. DALY: Yes, your Honor.

23 THE COURT: All right.

24 Q. What did you find important from the 2004 OIG report?

25 A. Basically, as I discussed in my deposition, we talked

1 about this report at length, and what the OIG found when they
2 studied these drugs is that there's a misconception that if
3 there is consistency amongst the reimbursement formulas, that
4 it will result in very common reimbursement levels from state
5 to state. So they actually did a study of it to see if that
6 were in fact the case for Medicaid programs, and they -- to
7 basically kind of walk through what the study was, it's similar
8 to other OIG studies. They took -- they wanted to get a sample
9 of innovator drugs, which are drugs that don't have
10 competition, the branded version of a multi-source drug, and
11 then actual generic-type drugs, and so they had kind of three
12 different categories. They picked 10 drugs from each category,
13 and then what they did was they look at the highest volume, 200
14 drugs during a period of time to look at, what did Medicaid
15 actually pay for those drugs? They summarized some of their
16 results for all 30, or actually for 28. Two of the branded
17 non-innovator drugs kind of dropped out of their sample because
18 they didn't believe that they had adequate data, so they looked
19 at 42 different states. So for 28 of the drugs they looked at,
20 how does the average reimbursement compare from state to state?
21 And what they found was, there was significant variability
22 between the populations. And I have a copy of the report here,
23 not to use the demonstrative.

24 THE COURT: What tab is that?

25 THE WITNESS: I brought a copy of the actual report.

1 It was a copy that we used during the deposition, and I had
2 highlighted some key points out of that.

3 MR. TORBORG: Your Honor, if you'd like a copy --

4 THE COURT: Yes. We can mark the report. I've always
5 found the OIG reports helpful.

6 MR. TORBORG: I think you'll find this one
7 particularly helpful.

8 THE COURT: All right, so we'll mark it as what?

9 MR. TORBORG: I think we're up to 8?

10 THE CLERK: 8, yes.

11 (Exhibit 8 received in evidence.)

12 THE WITNESS: So, your Honor, would you like me to
13 kind of walk through the report? I'll try to do it quickly.

14 THE COURT: You know, we have to finish, so I'm going
15 to leave it up to counsel. When did you say? You'll finish by
16 2:30 by then?

17 MR. TORBORG: We could do that, sure.

18 THE WITNESS: Okay, if you look at the report, I'll
19 just point out a few things before I get to the results. There
20 are some summary findings on basically 2(i) and 3(i), so that
21 would be like the third page in, so you go into the executive
22 summary at the bottom of "Findings." Basically this goes
23 through the level of variability. If you look at all 28 drugs
24 on average -- and all these states generally were using
25 these -- well, obviously similar to this situation. The

1 argument goes that they were all using similar reimbursement
2 formulas, mostly based off AWP or WAC plus. And what they
3 found was in fact that on average, the highest-paying state
4 paid 477 percent more per drug than the lowest state for the 28
5 drugs in the sample. And then specifically they even tried to
6 refine their test somewhat --

7 THE COURT: This is on Page 3, little i?

8 THE WITNESS: I'm sorry 2 little i was that. I
9 apologize. The last --

10 THE COURT: All right.

11 THE WITNESS: So basically they found a 477 percent
12 variance. I think kind of more on point to the question at
13 hand here is, they refine their study. So if you go to 3(i),
14 under "State drug prices are a product of multiple factors and
15 vary even among states with the same pharmacy reimbursement,"
16 if you go to about the third sentence, it starts off "A
17 widespread assumption."

18 "A widespread assumption is that states with the same
19 estimated acquisition cost formula pay similar prices.
20 However, in our sample of drug differences, in-state estimated
21 acquisition cost formula only partially explain price
22 differences. For instance, 15 states that had the same
23 estimated acquisition cost formula --" AWP minus 10, that was
24 the most common -- "paid substantially different prices for the
25 drugs in the sample. "

1 THE COURT: Where does it explain that?

2 THE WITNESS: Well, it quantifies it -- let me see if
3 I can find it quickly. If you go to Page 17 -- I'll only go
4 through two more points, this point and one more on here --
5 about two-thirds of the way down the page it starts out "A
6 state's estimated acquisition cost formula is often used as a
7 proxy or a gauge. However, for the 28 drugs in our sample,
8 states with the same estimated acquisition cost paid
9 substantially different. Among the 15 states that paid AWP
10 minus 10, the highest-paying state paid between 6 percent and
11 16 times more for the 28 drugs in the sample, and for the 15
12 states, the highest-paying state paid 187 percent more on
13 average for the 28 drugs, and the median percent difference was
14 26 percent."

15 So even for states paying the same amount, there were
16 significant differences. I think more germane to what we're
17 talking about here is the effect on non-innovator drugs, and I
18 won't go through it because this shows up various times in the
19 report, but if you go to Page 10, they isolate the results that
20 I just summarized by category of drug. And obviously and what
21 you would expect is, the level of variability for single-source
22 drugs is significantly different than non-innovator drugs. So
23 if you go to the table on Page 10 to the third line where it
24 says "Non-Innovator multi-source," the range of differences for
25 these drugs was between 20 percent and 40 times between the

1 highest and the lowest state, and the average pricing
2 difference was 12 times, and the median was a little less than
3 four times.

4 So the point with this is that particularly when you
5 get into the generics category, the use of similar AWP-based
6 formulas is not -- or the use of a formula based on AWP is not
7 necessarily indicative of any comparability between the states.

8 Q. What kind of drugs are the drugs at issue in this case?

9 A. These are multi-source drugs similar to the study here.
10 It's accentuated a bit because these are I.V. drugs, so there's
11 even some unique nuances related to those drugs, but all of
12 them are basically the generic drugs.

13 Q. In your review of the --

14 MR. BREEN: I'm sorry, your Honor, could I just ask --
15 I don't have the document in front of me. You said there's
16 I.V. drugs in this report?

17 THE WITNESS: No, there are not.

18 MR. BREEN: I didn't hear that.

19 THE WITNESS: Okay, sorry.

20 THE COURT: At least this doesn't tease out what the
21 cause of the variability is.

22 THE WITNESS: Well, they actually do talk about, if
23 you want to get into that, they point to a few different
24 things. If you go to Page 19 -- and I probably can't read
25 through the details here -- the problem that they had was that

1 they did not believe that their sample was adequate to
2 extrapolate out, so they could not prove or quantify what the
3 impacts were, but based on their analysis, they pointed to two
4 significant factors. The usual and customary charge also
5 affects the state, and if you read through this section, if we
6 had more time, if you'd like, it talks about both the
7 definition but also just the frequency in the number of times
8 that usual and customary is the resulting charge. And then if
9 you go to Page 20, the next section talks about, the second
10 reason that they cite is that "State's maximum allowable costs
11 contribute to the price variation for multi-source drugs."

12 THE COURT: And you'd expect that?

13 THE WITNESS: Which you would expect. I think an
14 interesting thing, though, is, they do identify the fact that a
15 MAC is not always just a MAC, that different states do very
16 different levels of MACs; and the comparisons that they give on
17 the top of Page 21 is that Oklahoma's MAC for one of the drugs
18 was 38 cents a pill, a price that's 371 percent higher than
19 Washington's MAC, which was at 8 cents. So obviously, even for
20 a MAC situation, there can be significant variability between
21 what one state does and what another state does.

22 Q. Mr. Young, you referred earlier to an analysis that
23 Dr. Duggan did to compare the spending per claim for these 44
24 NDCs across the sample set of states and then across the 38
25 other states.

1 A. That's correct.

2 Q. And have you taken a deeper look into that analysis?

3 A. Yes, I have.

4 Q. And are the results of your look contained in this binder?

5 A. Yes, they are.

6 Q. Tab 21. Mr. Young, this is a large chart with a lot of
7 numbers on it. Why don't you first before we get into --

8 THE COURT: You either need to zoom in on that, or
9 it's not going to be useful.

10 MR. TORBORG: Do you have the binder in front of you,
11 your Honor?

12 THE COURT: I do. That's clear.

13 MR. TORBORG: Yes, I'm having a hard time getting it
14 to work on this. I'm trying. I think we're going to have to
15 use the paper copies for this one.

16 Q. Mr. Young, before we get into the numbers, could you just
17 explain what the layout of this large document is.

18 A. Yes. Basically what we've done is, or what I've done, is
19 replicate Dr. Duggan's analysis but just give one level of
20 detail below the numbers that he used to reach his conclusion.
21 Basically, if you look at the top of the slide, the NDCs are
22 listed, and I happen to rank them based on total -- I think the
23 most significant damage drug first on down in descending order.
24 Basically the way the chart works is, each one of these
25 cells -- so let's just take California, for example -- would be

1 the average amount paid -- well, let me step back and refresh
2 everybody's memory as to what Dr. Duggan had done. He had
3 indicated that he took the average of the 11 states for a given
4 NDC and compared that to the average of the 38 states. So to
5 give you the example for the first drug, your Honor, the
6 average --

7 THE COURT: So where did you get 11?

8 THE WITNESS: His analysis was done when he still had
9 Ohio in it. He's never updated it for excluding Ohio, or we've
10 never gotten the documentation of it excluding Ohio.

11 THE COURT: So this includes Ohio?

12 THE WITNESS: It does include Ohio, that's correct.
13 So if you look at that, the average for the 11 states for that
14 NDC for the eleven-year period of time is \$201 per claim, as
15 opposed to the average for the states which is \$230 per claim.
16 What Dr. Duggan did is, he did that calculation for each of the
17 44 and concluded that in 24 situations, the average was lower
18 for the 11 states, and in 20 situations it was lower for -- I'm
19 sorry, 24 states for the 11, 20 states for the remaining
20 population. Since there were more that were lower for the 11,
21 that was the support for his position that it was conservative
22 to use the 11 states to look at it.

23 What I've done here is to take that one step further.
24 So basically, if you look at the same drug -- let's just take
25 California, for example -- the first number which is \$241.99,

1 what that is is the average of all claims over the entire
2 eleven-year period of time for California for that drug. So
3 basically the \$241 is an average of all those claims for eleven
4 years. The \$201 is then the average of the averages.

5 And the reason that this brings concern to me combines
6 with information that Myers & Stauffer pulled together, which
7 is, per-claim analysis can be very unreliable for these type of
8 drugs because the administration isn't like pills. You're
9 doing I.V. solutions. Sometimes a claim may have one day
10 worth, sometimes it may have seven days' worth, sometimes it
11 may have thirty days' worth. So variability in amount per
12 claim can be largely driven by quantity. So doing an analysis
13 to say everything's comparable between the two and the pricing
14 is comparable doesn't make any sense if the quantities are all
15 over the map, because it's really not a determinate that, yes,
16 they're paying roughly the same amount per claim. It's really
17 just more of a random, haphazard calculation. And if you look
18 at the underlying data, even for the 11 states, you know, you
19 have a low of \$65 a claim for Ohio, with Wisconsin being close
20 behind at \$71. Then you've got a series of them that are in
21 the hundreds, a couple in the two hundreds, a couple in the
22 three hundreds. So you're talking about, you know, two-to-one,
23 three-to-one, four-to-one differences even within the 11
24 states, and then, similarly, you see a great deal of
25 variability for the 38 states, with the low being as low as

1 \$43, the high being as high as \$783. That doesn't mean that
2 the state that's at \$783 is paying four times more or eight
3 times more or ten times more. It just means there's more
4 quantity there.

5 The purpose of this chart is not to conclude that
6 there is drastic variability in the pricing between these
7 states, but it does demonstrate that by taking an average of an
8 average, you've hidden the fact that they are very different,
9 and they're different for a reason other than pricing. So to
10 use the comparability of 24 states versus 20 states and say
11 that's an adequate basis; since they were roughly close after I
12 took the average of the average, that that makes me feel
13 comfortable that the reimbursement levels really are. What
14 this demonstrates is, any analysis on a claim-by-claim basis,
15 based on my past experience, would not be reliable to reach a
16 conclusion of that nature.

17 Q. To do an example, Mr. Young, if we look under the 38
18 states section of the page, the first column, that's the
19 highest expenditure drug; is that correct?

20 A. That's correct.

21 Q. And Alaska was paying, according to the MAC data, \$66 per
22 claim?

23 THE COURT: On average, right?

24 Q. On average from 1999 through 2001, right?

25 A. Right.

1 Q. Whereas, if we go down two rows, Arkansas was paying \$606
2 per claim for the same drug for the same time period?

3 A. That's correct.

4 Q. And did Alaska even have a MAC program?

5 A. No, not to my knowledge.

6 Q. So what does that tell us?

7 A. It basically indicates to me that this is not a reliable
8 indicator of who's paying more or less based on what the
9 reimbursement levels are. And I should probably correct
10 something. I think I said eleven years before. I forgot that
11 we don't have the data to be able to do this analysis for
12 eleven years. I think the data sets were only complete to be
13 able to do it for about a two-year period of time, from '99 to
14 2001.

15 THE COURT: What drug is this?

16 MR. TORBORG: That was vancomycin, 1 milligram.

17 THE WITNESS: The first one is vancomycin.

18 THE COURT: Well, you said you went into the weeds.
19 What is the explanation for the difference?

20 THE WITNESS: I believe, based on looking at the data,
21 it's a quantity-based issue that's the primary driver.

22 THE COURT: I don't understand what that means.

23 THE WITNESS: In other words, if a normal dose of
24 vancomycin is 2 grams a day, some providers are going to submit
25 a claim of each day for 2 grams. Some providers are just going

1 to wait till the end of the week and submit a claim for seven
2 days at 2 grams, 14 grams of vancomycin. Some will do it
3 for -- from what I could tell, there were even some that must
4 have been doing it for a month, just based on the quantity that
5 was showing up there. And even when I looked within a given
6 state, the providers were all over the map as to how it
7 appeared that they were doing it.

8 THE COURT: I see. So you're saying some claims were
9 for 2 grams and some claims were for 28 grams.

10 THE WITNESS: Exactly.

11 THE COURT: And so you think that's the difference,
12 not a difference in reimbursement?

13 THE WITNESS: It varies, the quantity varies so much
14 that there's no way to draw a conclusion on the reimbursement
15 level basically.

16 THE COURT: So they didn't reduce it to a typical
17 unit?

18 THE WITNESS: Well, actually, I don't want to spend a
19 lot of time with it. We tried to use the MAC data to do a
20 per-unit calculation because they have quantities in there, but
21 that data was equally as -- appears to be unreliable, that it's
22 just not -- there's differences in per-unit costs that are
23 nonsensical in nature that could never be explained by
24 formulas, so it must have been that sometimes people were using
25 one bag, and some people were submitting 1,000 milliliters, so

1 you'd have 1,000 difference. I mean, the differences even
2 within a state, let alone across states, are so nonsensical
3 that you can't even quantity adjust based on the data that we
4 have.

5 Q. So is it fair to say, Mr. Young, that you found that
6 Dr. Duggan's per-claim analysis was driven by quantity of the
7 drug, not the price of the drug?

8 A. That's correct.

9 Q. Dr. Duggan provided some testimony about the --

10 THE COURT: Do you have an example of that?

11 MR. TORBORG: Yes.

12 THE COURT: The way you can just prove that up?

13 THE WITNESS: Well, it was -- by doing these
14 calculations and the variability that was showing up there, I
15 did go down and look at the data, and the way that I was able
16 to do it is that some of the states had --

17 THE COURT: Some of the states are very specific,
18 right, I was told? The states-driven data that we don't have
19 all of but we have some of, you'll know how many units were
20 involved in --

21 THE WITNESS: Oh, there's no question. When you have
22 the claims data, even though are quantity -- when you have the
23 hard claims data --

24 THE COURT: Yes, we have that for some states, right?

25 THE WITNESS: Right.

1 THE COURT: So did you go into the weeds and figure
2 out that you're right, that this is quantity-driven, not --

3 THE WITNESS: Yes. The quantities were drastically
4 different for almost every drug.

5 THE COURT: And it wasn't reduced to the same common
6 point of comparison, apples to apples?

7 THE WITNESS: You mean going through a calculation on
8 the average cost per unit --

9 THE COURT: Yes.

10 THE WITNESS: -- within the hard claims data. We did
11 it off the SMRF and MAX data because that's the only data we
12 have for the 38, so I can't really --

13 THE COURT: Well, how about for the 20 you have the
14 hard data in?

15 THE WITNESS: I did not do a wholistic calculation of
16 that. What I did find when I went into even the hard data, I
17 saw anomalies there, where it was an NDC that was a
18 1,000-milliliter bag, and there were some that were clearly
19 doing it based on multiples of 1,000; but there were, you know,
20 maybe 10 percent of the claims where it was one, two, three,
21 four, five, six, seven, which obviously that's more of a per
22 bag. In that case they did a --

23 THE COURT: Excuse me. With the states we have the
24 hard data on, it was reduced to a common-unit analysis, with
25 some outliers?

1 THE WITNESS: I do not know for certain whether
2 Dr. Duggan had adjusted for all those things in his opinion.

3 THE COURT: But when you looked, did it raise a red
4 flag that as a typical matter, not that there weren't some
5 problems, as a typical matter, was it being billed out at the
6 dose, at the common-unit level, or was it --

7 THE WITNESS: No, I think it was -- I think that for
8 the majority of them, maybe, I would say up to 90 percent of
9 them you could probably -- the unit information tended to make
10 some sense.

11 THE COURT: You could tease that out?

12 THE WITNESS: Yes, for the 10. The problem that we
13 have is that for -- it's hard to do then a comparison of the 10
14 to the 38 because all we have for the 38 is the SMRF and MAX
15 data.

16 THE COURT: Sure. So what you're saying is, from that
17 aggregate data, without knowing exactly what units were being
18 billed, you're saying you can't do an average?

19 THE WITNESS: Right, on a per-unit basis that's
20 reliable. They have -- there's a field, there's a number in
21 there. It's just when you do -- I mean, if you want to look at
22 it --

23 THE COURT: But if I took the 20 and said they were
24 representative, and 90 percent of them were on a unit basis,
25 you could extrapolate?

1 THE WITNESS: No, because you don't know what the
2 per-unit cost is for the 38 states. In other words, what he
3 was trying to say is: I think that my states are equal to or a
4 little bit lower than the 38 states, and therefore -- because
5 my per claim ended up being lower more times than not.

6 For the per-claim analysis, what I'm showing here is,
7 you can't make a conclusion based on what the pricing is
8 because the quantities are so much different, right, between
9 the two? Similarly, if I don't know what the per-unit cost is
10 in the 38 states, I have no way of knowing that I happened to
11 pick 10 states, high-expenditure states that actually happen to
12 be paying more for the drug than the other low-expenditure
13 states, and if so, by how much, because I don't have quantity
14 information to be able to do that comparison for the 38 states
15 that's reliable, unit information.

16 Q. Dr. Duggan provided some testimony during his testimony
17 about the results of his looking at the 9 new states of data,
18 and he talked about his results for three states, Pennsylvania,
19 Virginia, and Texas, and I think he said that they showed
20 relatively little difference. Have you reviewed his analysis
21 of the 9 states?

22 A. I've reviewed the results from it, yes.

23 Q. And do you think that just focusing on those three states
24 is a fair representation about how his extrapolation
25 methodology fared?

1 A. Obviously, you would have to look at all 9, and the 9 vary
2 in the amount of the difference.

3 Q. Have you prepared a chart that shows that?

4 A. Yes, I have.

5 Q. Is that behind Tab 23?

6 A. Yes.

7 Q. Mr. Young, is this a slide that you prepared?

8 A. Yes, it is.

9 Q. Okay, can you tell us what this reflects.

10 A. Yeah, I mean, this is just basically a simple graphical
11 depiction of the results of Dr. Duggan's analysis. What I've
12 done is taken the difference between the extrapolated results
13 for the 9 states and deducted out what the claim by claim or
14 his new analysis came up with, calculated that difference, and
15 then divided it by his new analysis to come up with a
16 percentage difference for each of the states.

17 Q. And what do your comparisons show?

18 A. It shows that a couple of states were obviously reasonably
19 close, but then you have an offsetting effect of -- the one
20 state that appeared to be above kind of offset some of the
21 effects of the six or so that were below. And in fact a couple
22 of the states, there's a substantial difference, where one came
23 out to be a little over 41 percent and one a little less than
24 27 percent different.

25 Q. Mr. Young, based on your review of the data, do you find

1 Dr. Duggan's within-state extrapolation to be reliable?

2 A. No, I do not.

3 Q. And why is that?

4 A. Basically, I mean, the underlying problem whenever you're
5 doing an overpayments calculation is that if you don't sample
6 from across the board, from what I've seen, there can be
7 characteristics in the data that you just don't pick up,
8 factors that you didn't think about or that you may not have
9 considered unless -- and you pull the sample, you say, "Oh,
10 yeah, that's right, that's happening, I understand that that's
11 happening," and it can give some insight to it. And I don't
12 know if there's, you know, one factor or, you know, five
13 factors that would have come to light through that, but I was
14 able to do some data analysis that would indicate that one
15 factor is that it appears, although we have very limited data
16 from the early periods, much more of the claims -- more of the
17 claims tended to be at charges, our discussion from earlier,
18 your Honor, about at-charges transactions. In the later period
19 very few --

20 THE COURT: When you say "at charges," you mean usual
21 and customary?

22 THE WITNESS: Yes, I'm sorry, that they were paid at
23 the usual and customary as opposed to -- they got the full
24 amount that they charged, the usual and customary charge that
25 the pharmacy did. That happened a lot more later in the period

1 than it did earlier in the period, and I have a graph that
2 depicts that.

3 THE COURT: In that little blurb from the OIG, the way
4 they explained usual and customary was that some states were
5 defining it to mean what the cash-paying customer paid.

6 THE WITNESS: Yes.

7 THE COURT: But then some states got more savvy and
8 asked them to average in what was being reimbursed by a
9 third-party payor as well.

10 THE WITNESS: Yes, there can be some differentials
11 like that.

12 THE COURT: So is that consistent with what -- so
13 that's why in some states if you defined it in a way as to pick
14 up more sales.

15 THE WITNESS: Right, that was one of the reasons.
16 Another reason that they gave was that there really was no
17 difference in definition between a couple of states, but one
18 was at 23 percent and one at 36 percent. They didn't
19 necessarily know why. They just knew that it varied from one
20 state to the next. So it can be a definitional issue, or it
21 can just be based on the practices of the providers in that
22 individual state.

23 Q. Mr. Young, you were referring to a chart that you had
24 prepared. Is that behind Tab 24?

25 A. Yes.

1 Q. This is entitled "Percentage of claims marked by
2 Dr. Duggan as 'pay charged' by state by year." Is this a chart
3 that you prepared, Mr. Young?

4 A. Yes, it is.

5 Q. And can you tell us what this reflects?

6 A. When we were going through Dr. Duggan's underlying
7 analyses, we found some tables that he had created that
8 calculated what percentage of the claims were paid at charge
9 for the periods that he had the hard claims data for, and what
10 I've done here is basically take those tables and graphically
11 depict them out going back in time. It does get complicated
12 because, again, a lot of the earlier periods are covered by the
13 SDUD data, and you can't do a calculation like this based on
14 SDUD data, but we were able to depict the calculation that
15 Dr. Duggan did for these.

16 Q. Is there also a table with the actual numbers in it behind
17 24-B?

18 A. Yes, there are.

19 Q. I'm going to put that up.

20 THE COURT: So, no, explain that to me. So is that
21 consistent with the notion that the states were on to them at
22 some point and --

23 THE WITNESS: You know, I have not done --

24 THE COURT: They've all gone down, most of them have
25 anyway, so what happened?

1 THE WITNESS: Different things could have happened. I
2 don't -- I have not quantified it, so in cross I'm sure
3 somebody would -- I'll say that up front. My past experience
4 is, the evolution from the '80s to the early '90s was that
5 basically everybody paid at charges, and it was kind of an
6 evolutionary process that more and more payors were starting to
7 come in and negotiate contracts to get discounts. Usually what
8 they'd do is they'd say, "We're paying you X at charges. We
9 want to reduce it by 10 percent, so we're going to pay you
10 AWP." We'll just pick AWP. "We'll do 10 percent off that or
11 5 percent off, and that gets us to where we want to be."

12 THE COURT: Well, why would percentage at U and C go
13 down?

14 THE WITNESS: Because -- well, I'll get to that in a
15 minute. Originally everybody was paying U and C. I think
16 what --

17 THE COURT: Right, but that was the '80s.

18 THE WITNESS: '80s and even -- well, I mean, according
19 to Blue Cross-Blue Shield --

20 THE COURT: AWP kicked in early '90s, right?

21 THE WITNESS: Early '90s, yes, yes.

22 THE COURT: Yes, all right, so --

23 THE WITNESS: So but what happened was, as more and
24 more people were getting discounts, at least from what I've
25 read -- and I don't think I've seen a quantification of this --

1 people would have to increase their charges to other folks to
2 make up for some of the money they were giving away when they
3 were getting limited to AWP minus 5 or 10 or 15 on the drugs,
4 or when MACs started to come into existence and commercial
5 payors --

6 THE COURT: Sure, so this just reflects the reforms
7 that were coming in, the MACs, the FULs, increasing the
8 percentage of AWP. So U and C is almost never the lowest
9 towards the end?

10 THE WITNESS: That's correct, yes. I mean, at least,
11 I mean, you can look at this data, but, you know, it gets down
12 to -- the weighted average is down well below 20 percent, yes.
13 So it does get to be less and less common.

14 THE COURT: So unless the state tinkers with the
15 definition, U and C is almost never going to be the amount
16 charged?

17 THE WITNESS: Today.

18 THE COURT: Today.

19 THE WITNESS: But going back in time, you know, for
20 Illinois it was as high as 78 percent.

21 THE COURT: Sure, because -- sure, right.

22 THE WITNESS: So the concern here, to get to the punch
23 line because I know we're running out of time here -- and I
24 apologize for that -- is that Dr. Duggan did an adjustment
25 factor when he did his extrapolation back. So he said, "I know

1 what it is in '96, the last quarter in '96. I'm going to take
2 that one quarter, and I'm just going to take it back in time."

3 He did an adjustment factor for one thing that should
4 be considered, and that is that the spreads, the difference
5 between AWP and what he calculated as the estimated acquisition
6 cost, went down, so he factored it down for that. But there
7 would also be a situation where because there are more
8 transactions at charges -- and he even talked about this --
9 generally when you have more transactions at charges, the
10 average that the state is paying becomes much lower because
11 you're not paying the AWP-based formula; you're paying
12 something less than that by definition.

13 So, you know, this is one factor. His extrapolation
14 back, from what I could see, he did not do a calculation to
15 define what this was and to do an adjustment factor. But I
16 think my concerns a little bit further is, I don't know if this
17 is one factor that didn't get considered that could have been
18 factored, or whether there's three or four others that I would
19 have been able to see had we had the data and done a sample and
20 been able to analyze a sample from that period of time.

21 Q. Do you recall that Dr. Duggan testified that if a claim
22 was reimbursed at U and C as opposed to the scaled AWP, his
23 difference would be less, right?

24 A. Yes, he did talk about that.

25 Q. Right? And so what is the concern with having a higher

1 percentage of U-and-C-based reimbursements early in the claim
2 period where he's extrapolating to?

3 A. In taking that to the next step, it would be that the
4 differences would be less in those earlier periods of time
5 because more of the transactions were going through at charges.

6 Q. Mr. Young, during his testimony, Dr. Duggan said that --

7 THE COURT: So just to understand -- I'm thinking not
8 as fast as all of you -- so basically the concern you raise
9 deals with the extrapolations backwards in time?

10 THE WITNESS: Yes, it does.

11 Q. Mr. Young, Dr. Duggan gave some testimony about his
12 but-for prices that he was using in his difference calculation,
13 and he had claimed that this price of his was conservative.

14 A. Yes.

15 Q. And as part of your work in this case, have you analyzed
16 the appropriateness of his but-for price?

17 A. Yes, I have.

18 Q. And what is your major criticism of that but-for price?

19 A. As I discussed in my original report, pharmacies can buy
20 drugs two different ways: Either they can enter into a
21 contract, either through themselves directly or through a group
22 purchasing organization, to buy the drug; or they can just go
23 and buy it at the wholesaler list price. The unique nature of
24 these drugs are, they are extremely low volumes for these
25 pharmacies. If you just look at the claims data, the average

1 that a pharmacy gets paid for an entire year for one of these
2 drugs is less than \$2,000. That's the average. If you look at
3 the median, which is the middle pharmacy, so if you have 200
4 pharmacies, the pharmacy at the 100 level is buying less than a
5 few hundred dollars of these products of all 44 NDCs for an
6 entire one-year period of time. So the concern that I raised
7 was the fact that many of these customers are probably buying
8 off contract. On-contract sales are going to be at lower
9 prices --

10 THE COURT: On contract, you mean through a GPO?

11 THE WITNESS: Through a GPO, correct, or even a direct
12 contract with Abbott.

13 THE COURT: Why isn't that picked up in the claim by
14 claim?

15 THE WITNESS: Well, what happened was, he calculated
16 his average based only on contract sales, and I don't know why
17 because he has no visibility. If somebody buys it from a
18 wholesaler, the data, and Abbott or the manufacturer doesn't
19 know what's being paid for that drug because they're probably
20 buying it off the wholesaler list price. That's why when
21 people set MACs and when people analyze the information to set
22 EACs, they wouldn't be using AWP, but they would look at the
23 wholesaler list prices because for generics, that's what
24 everybody looks at. There's wholesale list prices. They're
25 not WACs, they're not AWP, they're not anything else. They'll

1 buy at the wholesale list price. When I looked at the --

2 THE COURT: Now you've lost me. So you're saying
3 wholesaler list price is different than WAC?

4 THE WITNESS: Yes, for generic drugs.

5 THE COURT: Is that something sometimes called the
6 direct price?

7 THE WITNESS: No. It's not -- it's not necessarily --
8 it's not what gets published by the manufacturer. It's --

9 THE COURT: There's a third set of books I don't know
10 about, so --

11 THE WITNESS: No, it's actually a list price that are
12 out there. The DOJ used them when they came out with the DOJ
13 AWP's. Maryland, for example, uses it when they came up with
14 their MACs. What the wholesaler does is, they have to say,
15 "Well, how much can we charge for this drug for these
16 low-volume purchasers that don't have a contract with the
17 manufacturer, how much can we charge for these drugs and still
18 be competitive?"

19 THE COURT: Isn't the wholesaler the published WAC?

20 THE WITNESS: No. They would sell it at something --

21 THE COURT: That's because most people don't use WAC,
22 right?

23 THE WITNESS: Right, not for generic drugs. I'm
24 talking about only for generic drugs here. They're completely
25 different than branded. Branded, a lot of people do pay WAC,

1 you know, the majority of the people --

2 THE COURT: Like, virtually no one pays a WAC for
3 generics, is that what you're saying?

4 THE WITNESS: There is a very small percentage of the
5 population that's buying very small quantities and may be less
6 sophisticated, but, yeah, WAC, is not used. It would be what
7 shows up on the wholesale list price.

8 So, anyway, what I did was, I did an analysis to say,
9 okay -- and this was similar to the way you have to do it for
10 Medicaid Rebate Act purchases is, how much -- let me look at
11 his contract sales for his classes of trade that he defined and
12 compare that to what I know the noncontract sales are for these
13 drugs for this period of time. And you can get to that
14 basically by saying: Here's my total wholesale and distributor
15 sales. Here's my total indirect sales that I have contracts
16 for, both the chargeback amount and the amount that the
17 customer paid. I deduct one from the other, and I say, okay,
18 what's left over had to be noncontract sales because they
19 didn't flow through that price.

20 So I compared those two populations to see, is this a
21 significant issue? Is there the likelihood that there's a
22 significant volume of customers out there, pharmacies that are
23 doing Medicaid that are paying that noncontract price? And
24 what I found was -- I have a graphical depiction in my report
25 that I believe we have it just isolated in here under Tab --

1 what tab is that?

2 Q. 16. So tell us, Mr. Young, what this chart reflects.

3 A. This basically compares the indirect sales for the
4 pharmacy classes of trade that Dr. Duggan analyzed to the
5 noncontract sales. And one thing I will say is, the indirect
6 sales is what he used for AWP purposes. There are another
7 maybe \$10 million, \$10 million to \$15 million worth of direct
8 sales that he used for his direct price that were contracted
9 sales similarly. What shows up on the left-hand side of the
10 chart are the sales that we know went through wholesalers and
11 distributors that did not result in a chargeback. So those
12 wholesalers and distributors had to sell them to end customers
13 without a contract to us.

14 Q. So if I understand you correctly, Mr. Young, the problem
15 is, we have lots of sales to pharmacies out there that we don't
16 know what they paid?

17 A. Yeah, we have a lot of sales to customers that we don't
18 know what they paid. We have no visibility other than the fact
19 that we sold it to a wholesaler or distributor, correct.

20 Q. And those sales are not being reflected in Dr. Duggan's
21 revised prices?

22 A. That's correct.

23 Q. And here we are now ten to eighteen years later, and we're
24 trying to now determine --

25 THE COURT: Why isn't that being reflected back in the

1 claim-by-claim data, regardless of what class of trade it's
2 sold through, when the pharmacy puts in for reimbursement?

3 THE WITNESS: Well, because -- well, I guess -- what's
4 your question?

5 THE COURT: I guess I'm not understanding.

6 THE WITNESS: The claims data they just put in at
7 charges, right? So you don't know whether that was -- they
8 didn't have to disclose, did I do this under a contract or did
9 I not?

10 THE COURT: I'm sure it's the end of the day, so I'm
11 not getting it. Why do I care, as long as I know what the
12 claim is put in at and what they were reimbursed at?

13 THE WITNESS: Because he came up with a but-for price,
14 and the reason we're talking about this is --

15 THE COURT: We're moving to a new subject then?

16 THE WITNESS: We're talking about the but-for price
17 right now. If you remember, when he went through his
18 discussion, he said, "I took the average for the pharmacy class
19 of trade, and that was 25 percent higher than it was for the
20 average overall," which obviously these are pharmacies so that
21 only makes sense. "Then I marked it up by another 25 percent,
22 and I didn't consider certain rebates and discounts, so I
23 probably have a level of conservatism of 50 to 60 percent in my
24 calculation." And I think, given the amount of time, the way I
25 was hearing that was, "Even if I have some infirmity, some

1 problems with my extrapolation or what I've done, I have been
2 so conservative over here that it offsets the implications of
3 that extrapolated issue." And what we actually found was
4 the -- that I believe that those prices are not only -- they're
5 not conservative. They're much lower than what many, many
6 pharmacies were likely paying.

7 THE COURT: All right, so it's going to a different
8 point than we were talking about before.

9 THE WITNESS: Yes. You can't offset --

10 THE COURT: This isn't the claim by claim. This is
11 really, how conservative was he really?

12 THE WITNESS: Yes, yes, "You can't offset my
13 infirmaries with the extrapolation based on my conservatism
14 because of this."

15 MR. TORBORG: Your Honor, I'd like to give you a
16 preview of next week.

17 THE COURT: I might not come in, so don't --

18 MR. TORBORG: This will be easy.

19 Q. Did you review some contemporaneous evidence back during
20 the claims period to see what these pharmacies were actually
21 paying?

22 A. I attempted to. Obviously, it was a long time ago, so I
23 can't survey the pharmacies or anything else, but there were
24 some documents in discovery that gave visibility into that,
25 yes, for these noncontracted sales.

1 Q. And was one of those an OIG report in the early 1990s?

2 A. Yes, it was.

3 Q. And have you prepared a chart to summarize your findings
4 from looking at that?

5 A. Yes, I have.

6 Q. Is that at Tab 17?

7 A. Yes.

8 Q. Can you show us what this chart reflects.

9 A. Yes. So what the OIG did in this case is, normally when
10 somebody wants to know what's being paid for a generic, they go
11 down one of two paths: They either survey the providers
12 directly, or they look at these wholesale list prices that are
13 out there, understanding that most customers can probably get
14 it for that price, even if they don't have a contract. In this
15 case, the OIG actually surveyed dialysis centers, which, you
16 know, these are not pharmacies, but it did give some visibility
17 as to, okay, what were people buying these for in the
18 marketplace, and what was the level of variability in that
19 pricing, and how did they compare to Dr. Duggan's but-for price
20 of his average times 1.25?

21 And the long and the short of it is, people were all
22 over the board in what they paid, with the lowest barely being
23 below his but-for. And if you apply some kind of AWP minus 10
24 formula, you have to understand that that would take another
25 10 percent off his \$3.68. All the rest of them were paying

1 more. The median, which was kind of the middle provider in the
2 pack, was at about \$5. But if you get into the 75 percent
3 range, which usually when people are setting reimbursements
4 they want to get sometimes 75 percent, sometimes 95 percent
5 because they want to make sure that they include all providers,
6 you know, you can be as high as \$7.80 at the 75 percent level.

7 So, clearly, this is not statistical or quantifiable
8 or anything else, but it's the only -- one of the few things I
9 could find in discovery that gave some insight of what these
10 prices might be if they weren't buying on contract through our,
11 you know, classes of trade.

12 THE COURT: Okay, we've got to finish. Are you done?

13 MR. TORBORG: Yes.

14 THE COURT: Thank you. Do you have anything?

15 MR. BREEN: Yes.

16 THE COURT: Okay, so let me just do this. I have a
17 scheduling conference that is going to take two minutes. I'm
18 going to see them at side bar. Is somebody here from the
19 Boston Bar Association? It doesn't start till 3:00? All
20 right, let's keep going. I'm sorry. I thought it was 2:30.

21 (Discussion off the record between the Court and
22 Clerk.)

23 CROSS-EXAMINATION BY MR. BREEN:

24 Q. Let me just move right into some of this stuff, and maybe
25 at the break I'll get a little more organized and try to finish

1 up more efficiently, Mr. Young, so bear with me. Good
2 afternoon, by the way.

3 A. Good afternoon. How are you doing?

4 Q. That 2004 OIG report, what years was it studying?

5 A. I believe it was in 2002. I'd have to look back for sure.
6 2002 or 2003. It was shortly before the report was issued.

7 Q. And did it include any of the drugs at issue in this case?

8 A. No, it did not.

9 Q. And did it include any of the time frames at issue in this
10 case?

11 A. No, it did not.

12 Q. So it didn't include any of the drugs at issue in the
13 case, and it didn't include any of the time frames at issue in
14 this case?

15 A. No, it did not.

16 Q. Okay. And, statistically, are you qualified to draw any
17 conclusions from that report in testifying to her Honor that
18 Dr. Duggan's opinions are somehow invalid?

19 A. I think I'm not sure what the question is. Statistically,
20 I cannot extrapolate from something that was done after the
21 fact. You know, it is a fact that would have to be considered
22 on whether or not states are comparable with one another for
23 multi-source drugs, and I was laying that fact out for her.

24 Q. So are you saying that that OIG report is sufficient
25 reason, in your opinion, for Dr. Duggan never to render his

1 opinions to the jury in this case?

2 A. On a stand-alone basis? No.

3 Q. Okay.

4 A. But combined with everything else that is available in
5 discovery and that we've presented, yes.

6 Q. So you want the Court to assume that any variability of
7 reimbursement noted in that OIG report applied to the drugs at
8 issue in this case and the time frames in this case?

9 A. I think that it raises sufficient question that before you
10 could say you can do a reliable extrapolation from one state to
11 another, that you should quantitatively be able to prove that,
12 yes. I think it draws that into question, and the question is
13 whether there are any facts on the table that would demonstrate
14 that. The only facts that I was able to find is Footnote 45,
15 which I believe to be unreliable.

16 Q. Well, let me ask this question, and I haven't had a chance
17 to review that report, obviously, but -- at least I don't have
18 it in front of me right now, I haven't reviewed it lately --
19 but what did the CMS say about the validity of the data the OIG
20 used for that report? Did they accept it, or did they reject
21 it?

22 A. No, there were a couple of drugs that they did not agree
23 with, and the OIG considered that and said that their findings
24 were still valid.

25 Q. But the fact of the matter is, CMS had concern with all

1 the data in that report, didn't they?

2 A. I don't think it was with all the data. I thought that it
3 was -- I'd have to look back at the report. I have not
4 reviewed everything in detail.

5 Q. Why don't you look at page, I think it's 23?

6 A. Okay, can you remind me what tab, please?

7 Q. It's not a tab. You had that at --

8 A. Tab 20.

9 Q. Page 35, I'm sorry, and I will direct your attention to
10 the bottom of Page 35, and now I'm reading off the computer
11 where CMS said, "We do not concur with this report at this time
12 because we have identified numerous errors in the data. Before
13 using such data we believe that the OIG should share the data
14 with the states and ask them to explain how it could be
15 accurate or correct the errors." Then it gives some examples.

16 A. It gives all the examples that they were able to find,
17 yes, which were, I think, two related to two of the drugs.

18 Q. Now, moving on, I believe you testified that you did not
19 have available any hard claims data from the 38 states with
20 which to, at least as an accountant, test the accuracy of
21 Dr. Duggan's extrapolations; is that correct?

22 A. We did have hard claims data beyond the 10 states.

23 Q. So did you test the accuracy of Dr. Duggan's extrapolations?

24 A. To be able to test the validity of the extrapolations, I
25 would have had to correct for significant issues in the

1 underlying calculations, and I believe that that was beyond the
2 scope of this. And my concern is, and I have done this before,
3 if there are major issues with the underlying calculations --
4 for example, the but-for prices not being accurate, dispensing
5 fee issues related to I.V. not being considered -- if I do a
6 calculation ignoring those issues, even if I say, you know, I'm
7 not accepting this but I'm going to do the calculation, my past
8 experience is, it draws into question whether or not you really
9 question those things.

10 Q. So what you're saying, that you had the hard claims data
11 from some of those 38 states, and you didn't go and do any
12 testing using the hard claims data to see if Dr. Duggan's
13 extrapolations held true for those states; is that it?

14 A. I think, to be able to do that, I would have had to
15 correct for those other errors that I knew before I --

16 THE COURT: You know what, this is going to take
17 forever, and I need to finish. Just answer yes or no. You
18 didn't do it?

19 THE WITNESS: I didn't do it, no.

20 THE COURT: All right.

21 THE WITNESS: Okay, sorry.

22 Q. Now, is Exhibit 7 still up there that I provided for
23 Professor Hughes?

24 A. I don't have Exhibit 7. Could we get a copy?

25 MR. BREEN: May I approach the witness, your Honor?

1 THE COURT: Yes.

2 THE WITNESS: Thanks.

3 Q. Have you seen that before?

4 A. Yes, I have.

5 Q. Did you prepare it?

6 A. My staff prepared it.

7 Q. Who in your staff prepared it?

8 A. It probably would have been Natalie with --

9 THE COURT: Is this my Exhibit 7?

10 MR. BREEN: Yes, your Honor.

11 THE COURT: In this tab. Oh, that's the -- all right.

12 A. One of my staff people under the direction of Chris Rohn
13 and myself.

14 Q. And doesn't this compare the results of Dr. Duggan's
15 extrapolation from the 9 states when you compare the results in
16 the new 9 states, looking only at the hard claims available
17 from the new 9 states?

18 A. It looks at both, yes.

19 Q. It looks at the hard claims and the claims that were
20 intrastate extrapolated, correct?

21 A. Right.

22 Q. Okay. So of the hard claims, if you look at all 9 states
23 and you look at them collectively, would you agree that
24 Dr. Duggan's extrapolation was within a less than 2 percent
25 margin of at least the total of these 9 states?

1 A. The number is within 2 percent, but that's not the concern
2 I would have with those numbers for the hard claims.

3 THE COURT: Could you say that again. What was within
4 2 percent?

5 Q. Would you agree that when you checked Dr. Duggan's
6 extrapolation to the new 9 states, looking at the hard claims
7 for the new 9 states, he's within 2 percent when you combine
8 the 9 states together?

9 A. Well, first of all, we didn't check. It would have taken
10 forever to go through, you know, 300,000 claims and try to
11 check his analysis. But to the hard claims extrapolation, if
12 you take all of the plusses and minuses, it comes out to be
13 76,000. And I'll trust your point on the math that 76,000 is
14 probably about 2 percent of 4 million, yes.

15 Q. 1.89 percent, does that sound about right?

16 A. It sounds about right.

17 Q. And when you saw this, did you ask if you had access to
18 any other state's hard claim data from the 38 states?

19 A. We really didn't have time to do an analysis. What we
20 found is, other than these states, there are other states that
21 have some data issues associated with them. I don't know all
22 the details of what those data issues were, but things that we
23 had concerns about the quantity that would have been difficult
24 to correct and other things. I don't have the detail of the
25 state-by-state analysis. I think what really concerned me

1 about this one is, it appears that the further you can go back
2 in time, which I believe, when you have hard claims going
3 further back in time, that's going to give you a more accurate
4 number, that's when you're coming up with the big negative
5 numbers. And generally, when you're not going as far back in
6 time, you can come up with some positives to offset those
7 negatives to get to your 2 percent.

8 Q. So to you that means that the extrapolation is not valid?

9 A. It certainly doesn't support the fact that it is.

10 Q. So you look at this 2 percent, and you conclude that that
11 supports your opinion that Dr. Duggan's extrapolation is not
12 valid; is that correct?

13 A. In light of, again, you know, going into the fact that I
14 haven't been able to go through all these claims and try to
15 figure out what was going on with them, given the amount of
16 time we have, because 300,000 claims would take a lot of
17 analysis, but this combined with all the other things that I do
18 know does not change my position that the populations vary
19 enough that I would be uncomfortable trying to do an
20 extrapolation when I didn't do a sample from those other
21 states.

22 Q. When you say you didn't have time, you had the same hard
23 claims data available to you at the time that you were
24 reviewing and critiquing Dr. Duggan's report a year ago,
25 correct?

1 A. That's correct, but the -- I mean, obviously everything is
2 cost-constrained, and if he's doing 10 states, we did limit our
3 work to the 10 states, plus the amount of work we had to do,
4 obviously, to get familiar with these kind of very unique type
5 of drugs that we're dealing with here.

6 Q. And when we took your deposition back in June -- you
7 recall that, correct?

8 A. Yes.

9 Q. -- at that point you had really done no separate
10 independent arithmetic calculations, had you?

11 A. For the 9 states? No.

12 Q. Even for the sample states, other than checking
13 Dr. Duggan's math, correct?

14 A. No. We just raised the issues that would have to be
15 corrected before we could evaluate whether or not they were
16 reliable.

17 Q. Now, this question you raise regarding the quantity of the
18 I.V. drugs being reimbursed in the various states at the
19 various times, have you done anything to examine the hard
20 claims data from the 9 additional states or any other states to
21 find out if your concerns have any basis in the facts?

22 A. Yeah, I basically looked at a couple, a few of the NDCs
23 and kind of scrolled through it to see if there was significant
24 variations in quantity, and I think I may have actually even
25 done a sort of the quantities shown on each claim, and it did

1 vary significantly, even within the states.

2 Q. But my question is, have you done anything to find out
3 whether or not Dr. Duggan's extrapolation methodology
4 overstates damages based upon this variance or variability you
5 find in quantities? Have you tested any of them?

6 A. That wasn't the point of that test. The point was that he
7 has concluded that the two populations are comparable;
8 therefore, extrapolation is appropriate. And he based that on
9 unreliable information because he didn't understand, or didn't
10 appear to understand because his data logs didn't have it, the
11 variability of the averages that are underneath that.

12 Q. Now, when you were questioning Dr. Duggan's -- and I don't
13 have -- maybe you can find the tab again. It was that graph
14 where you were saying that Abbott doesn't know what its drugs
15 are being sold for in the marketplace in most instances. Do
16 you remember that one?

17 A. Well, the contract versus noncontract sales? Yes.

18 Q. So I just want to make sure I understand this. You're
19 sitting here and you're testifying that, in your opinion,
20 Abbott Laboratories doesn't know how much its drugs are being
21 sold for in the marketplace for the vast majority of its sales?
22 Is that what you're saying?

23 A. No, definitely not. I mean, the vast majority of its
24 sales are clearly going through hospitals, and hospitals don't
25 have anything to do with the retail class of trade. And there

1 is a much higher propensity for direct contracts with
2 hospitals. They're very big organizations. So clearly they
3 understand where hospitals are buying the drugs. They
4 understand, for this 2 percent or 3 percent of the population
5 that Dr. Duggan analyzed, they understand what prices people
6 are buying at. I'm sure that they do look at wholesaler list
7 prices because everybody else does. I mean, that's what people
8 buy off of and that's what people look at.

9 So I would not necessarily say that they have no idea
10 of what their noncontract sales are going through at, but the
11 fact is, what any specific transaction would be going through
12 at and being able to do some kind of a calculation that would
13 show the variability of that pricing and what the wholesalers
14 were able to get, they don't necessarily have that information,
15 no, because they don't have a contract and they don't see that
16 transaction.

17 Q. And that graph that you did with the real tall column and
18 the column that Dr. Duggan actually used, remember that one?

19 A. Yes.

20 Q. That real tall column, are you saying that didn't include
21 hospitals or home health agencies or big customers or anything
22 else?

23 A. Nobody knows where those sales went to. They were sold to
24 wholesalers and distributors. I would say that, generally
25 speaking, the large-volume customers, and even in the analysis

1 that we were able to do, large-volume customers do tend to get
2 the contracts and buy through GPOs.

3 For example, with New York, after our little problem
4 with Figure 7 that we had talked about during the deposition, I
5 went back and looked at it; and we did an analysis that
6 basically looked at all the names in the sales data and then
7 looked at all the names in the pharmacy data, and then tried to
8 match them up. It was an imperfect science, but it did
9 validate that in fact it looked to me like about half of the
10 locations we couldn't find in the sales data. And about
11 three-quarters of them, if you consolidate all the Rite Aids
12 all together so you look at the number of customers, weren't
13 there.

14 So I do believe that in the retail class of trade,
15 given the low-volume nature of this, that a major portion of
16 those noncontract sales relate to retail. Do I think that all
17 of those noncontract sales relate to retail? Absolutely not.
18 There's always going to be a situation where even a hospital
19 who's high volume might be buying somebody else's drugs; they
20 may buy from a wholesaler at wholesaler list price. There
21 could be other low-volume categories. So that 160, and I do
22 want to be clear, it could be any customer. I don't know for
23 certain whether it's a retail pharmacy or whether it's a home
24 health agency or whether it's a hospital, and I don't think
25 that anybody knows.

1 Q. You're not saying that Dr. Duggan's but-for price or his
2 alternative price that he calculated is higher than the prices
3 being generally and currently paid in the marketplace by
4 Medicaid providers, are you?

5 A. The information that I have would indicate that his
6 but-for price would be lower than what the noncontract
7 customers are buying at. There are clearly contract customers
8 that are buying at or below his AWP that he has listed. My
9 concern is that there are still a large number of pharmacies
10 that are not buying direct from Abbott; and I don't think that
11 you can set a reimbursement level, particularly given the
12 low-volume nature of these drugs, that would only adequately
13 compensate what the people that go into a contract with Abbott
14 get paid. I think that that generally --

15 THE COURT: So noncontract means non-GPO. That's what
16 you're saying is --

17 THE WITNESS: Non-GPO or non, right, or non --

18 THE COURT: Or non one of these health distribution
19 networks, right?

20 THE WITNESS: Yes.

21 THE COURT: But what you don't know is how many of
22 those are individual mom-and-mop pharmacies versus a big
23 hospital?

24 THE WITNESS: Well, this --

25 THE COURT: Or chain?

1 THE WITNESS: This population would be just
2 pharmacies. So for some of the states we do know what the
3 pharmacy's name is, so you are able to roll up the Rite Aids
4 and the big home health providers that you have.

5 THE COURT: So they may get a better price than the
6 but-for, right? They may shoot way low?

7 THE WITNESS: Well, they would probably -- I think
8 that if you look at the contracted prices, they are relatively
9 consistent. So that's why, when he looked at the 95th
10 percentile, it didn't go much above what the average was
11 because they're pretty tightly banded as to what they do. I
12 think my bigger concern is that there does appear to be a very
13 large number of pharmacies that don't show up in the sales
14 data. And when you set a reimbursement level, you have to make
15 sure that that reimbursement level is adequate to keep enough
16 people supplying these drugs so Medicaid beneficiaries have
17 access to care, not just in New York City where all the big
18 players are but off, you know, 60 miles away from Buffalo.

19 THE COURT: This is the rural pharmacy problem, the
20 mom-and-pop problem.

21 THE WITNESS: Yeah, it could be. It did seem to be a
22 very large number of pharmacies. And you have to understand,
23 when you're buying less than -- it appears less than, you know,
24 a couple thousand dollars, or, for the median, less than a few
25 hundred dollars in drugs, the propensity to get a contract or

1 to necessarily seek out a GPO to provide those, it would
2 probably be less from what I would expect.

3 Q. I just have a couple of quick questions to follow up on
4 that.

5 MR. BREEN: I know you have to finish, your Honor.

6 THE COURT: We do because I have a scheduling
7 conference, and then we need to take a quick break, and then I
8 need to finish with Dr. Duggan, so --

9 MR. BREEN: Two questions.

10 THE COURT: Fine.

11 Q. Do you know that the mom-and-pop shops that you're talking
12 about here can join the wholesaler buying groups, or join
13 something called Rx Link that Abbott provides, and get pricing
14 that is at or below Dr. Duggan's alternative prices?

15 A. The wholesale prices that I've seen almost across the
16 board are above, so whether or not they did, it would have
17 shown up in -- if they were buying from Abbott under one of
18 those programs that identifies the customer, it would have
19 shown up in the data that way.

20 Q. Do you know what percentage of Abbott's customers pay
21 Abbott's list price for the drugs in question?

22 A. I would expect it to be a very low amount because they
23 could go to wholesalers and obviously get the wholesaler price,
24 which is going to be lower than the direct price, which is only
25 I think when you're buying less than a case, from my

1 understanding.

2 Q. Less than 1 percent, would that surprise you?

3 A. No, it wouldn't. I mean, if you look at the retail class
4 of trade, it's only 2 percent, so obviously hospitals are not
5 going to be paying list price. But I think it's going to be a
6 small percentage because if you can go to a wholesaler and buy
7 it for -- and the wholesaler is going to deliver it to you and
8 you buy it off the wholesaler's list price that they publish,
9 and it's, you know, one-third that amount --

10 THE COURT: So almost no one pays at WAC.

11 THE WITNESS: For generic drugs? I don't think so, I
12 mean, because they can buy from a wholesaler, and the published
13 wholesale prices and those list prices are well below what WAC
14 is. So it's much more convenient just to go to McKesson and
15 say, "I'll buy from you." So they're not going to buy it at
16 WAC. Generics are just completely different than branded from
17 that perspective.

18 MR. BREEN: Thank you. Thank you, Mr. Young.

19 THE COURT: Thank you. So just so he can go home, do
20 you have one or two questions?

21 MR. TORBORG: One or two. Two.

22 THE COURT: What?

23 MR. TORBORG: Two.

24 THE COURT: Two. Going, going, gone.
25

1 REDIRECT EXAMINATION BY MR. TORBORG:

2 Q. Mr. Young, just to help with the question the Court had
3 asked earlier, what percentage of claims, Medicare claims, did
4 Dr. Duggan have in his Medicare sample?

5 A. I don't have a specific calculation here, but I believe it
6 was less than 25 percent.

7 Q. And for his Medicare difference calculation, what
8 percentage of claims did he have?

9 A. I'm sorry. Were we talking Medicare?

10 Q. I just asked Medicare. Now I'm asking Medicaid.

11 A. Oh, Medicaid, okay.

12 THE COURT: Wait, wait, wait. So just back up. What
13 did you just give the 25 percent figure for?

14 THE WITNESS: I said Medicare.

15 THE COURT: Medicare, he had 25 percent of the
16 Medicare claims. And what about Medicaid?

17 THE WITNESS: For Medicaid, I think that for the hard
18 state claims data, it was about 1.6 million out of a little
19 over 3 million for the 10 states, and I think there were an if
20 you hundred thousand added, 300,000 or 400,000 added for the
21 other 9 states that he did an analysis for. So, let's say, I
22 think roughly 2 million out of 3 million.

23 THE COURT: So he had 66 percent of the claims --

24 THE WITNESS: Yes. It might have been a little bit --
25 it might have been 1.9. So I think it was something like

1 62 percent, but I don't know for sure.

2 THE COURT: Over 60 percent?

3 THE WITNESS: It was over 60 percent.

4 THE COURT: And under 70?

5 THE WITNESS: It was over 60 and under 70. That would
6 be the perfect answer.

7 MR. TORBORG: That's all I have.

8 THE COURT: Thank you. All right, so you can leave.

9 THE WITNESS: Thank you.

10 (Witness excused.)

11 THE COURT: We're going to take a break. I need to do
12 this one scheduling conference, and then we'll take a break --
13 Lee needs to put this on the record -- so she can have a break.
14 If we get back here, like, in the vicinity of 3:30, depending
15 on how long the scheduling conference goes, do we finish
16 Dr. Duggan in plenty of time?

17 MR. BREEN: I believe so, your Honor.

18 THE COURT: Because I wouldn't mind just having a
19 little oral argument afterwards if we had, you know, even ten
20 minutes to summarize your basic points. Does that make sense
21 if we have time?

22 MR. BREEN: Yes, your Honor.

23 THE COURT: Okay, all right. So we'll take a quick
24 break. You don't need to move your stuff. I'm sure I can do
25 the scheduling conference without having you move all that.

1 Thank you very much.

2 THE WITNESS: Thank you.

3 THE COURT: Enjoy your trip back to Illinois.

4 THE WITNESS: Thank you.

5 (Discussion off the record.)

6 (A recess was taken, 3:08 p.m.)

7 (Resumed, 3:41 p.m.)

8 THE COURT: Welcome back. You're still under oath,
9 and you'll be home on your 6:30 flight.

10 MR. BREEN: Thank you, Judge.

11 THE COURT: So, theoretically, how long do you have?

12 MR. BREEN: It shouldn't take more than fifteen to
13 thirty minutes, your Honor.

14 THE COURT: Okay, and let's put it this way: I don't
15 care if we just divide up the next hour, half an hour, half an
16 hour, but we're finishing today. So if you all want an
17 opportunity for summation, you've got to build that in. That's
18 the real issue. How long do you think you would want for a
19 summation?

20 MR. BREEN: Ten minutes.

21 THE COURT: How long do you think you would want?

22 MR. DALY: No longer than that, your Honor.

23 THE COURT: So, all right, so good, that's a good
24 thing. So if you each took twenty minutes, I think we'd have
25 time. Good idea? Then you're out even earlier.

1 THE WITNESS: That would be great.

2 THE COURT: Perfect, all right.

3 MARK G. DUGGAN

4 having been previously duly sworn, was examined and testified
5 further as follows:

6 DIRECT EXAMINATION BY MR. BREEN:

7 Q. All right, Professor Duggan, just before we get into the
8 some of the actual aspects of your opinion, I think it might be
9 helpful if you could sort of summarize the experience and
10 background, the specifics that you drew from in arriving at the
11 conclusion that you should use the samples that you use in this
12 case.

13 A. Really, I drew on my fifteen years of experience working
14 and doing economic research. I've studied many issues, but
15 certainly the focus has been on healthcare, the healthcare
16 sector, and within that, on programs such as Medicaid and
17 Medicare. So I have a lot of experience working with and
18 trying to track down large-scale data sets to answer questions
19 that are of policy or of interest to policymakers or to
20 academics. So I drew on all of that experience, through
21 graduate school, through so many of the papers that I've
22 written, training that I've done for graduate students and so
23 forth. I brought it all to bear on this.

24 Q. Now, is this the first time that you've had to address an
25 econometric problem or task that involved assessing data

1 throughout the American Medicare or Medicaid programs
2 nationwide?

3 A. No. I've certainly done that before: recent work on
4 Medicaid, looking at the effect of the program on
5 pharmaceutical prices in the U.S., recent work looking at the
6 Medicare program, the effect of Part D on pharmaceutical prices
7 in the U.S., taking samples of the largest drugs; in the case
8 of the Medicaid paper, the 200 top-selling drugs; in the case
9 of the Part D paper, the top several hundred. And so that's
10 two examples, but I've certainly done a decent amount.

11 Q. Now, you heard Professor Hughes testify today, correct?

12 A. I did.

13 Q. And he rendered certain opinions to the effect that the
14 size of your nonrandom sample has nothing to do with its
15 reliability or nothing to do with its usefulness to extrapolate
16 to the population as a whole for Medicare and Medicaid
17 reimbursement matters and determining the damages in this case.
18 Do you recall that?

19 A. I recall that.

20 Q. Do you agree with that?

21 A. I do not agree with that.

22 Q. Why not?

23 A. Well, let's take the case of the Medicaid analysis. In
24 the case of Medicaid, I utilized data for the 10 states, 10 of
25 the states with the most claims in the U.S., and used

1 information not just for 10 states but for 44 products and up
2 to 44 quarters in those 10 states. And I believe the number of
3 state NDC quarter combinations that I consider is in the
4 neighborhood of about 15,000, 15,000 or 16,000. And underlying
5 each of those state NDC quarter combinations, in some cases
6 there are just a few claims and in other cases there are
7 literally hundreds and hundreds of claims that are allowing me
8 to arrive at this DIFF-FRAC that has been the subject of much
9 discussion. So in terms of sort of setting out on this project
10 initially, trying to come up with the absolute most reliable
11 estimate of this difference nationwide, it was not a
12 coincidence that I focused initially on the Californias, the
13 Floridas, the New Yorks, and so forth. Those allow me to,
14 right off the bat, before one thinks about anything, those will
15 allow me to converge to a more accurate estimate right off the
16 bat.

17 So it's not -- you know, this statement of just 10 states,
18 this is 10 states over 44 quarters over 44 products. We're
19 talking about, you know, 50,000 pieces of information, so have
20 this information for these states over the study period, and
21 then use my training as an economist to say, well, what can I
22 learn? You know, based on these analyses of state-provided
23 claims data, what is the most appropriate thing, given all my
24 training as an economist, as an empirical economist, to do if
25 one wants to come up with a comparable -- an estimate for the

1 remaining 38 states? And so I sort of talk about a fair
2 amount, both in the report and in the rebuttal report and in my
3 depositions, many other cases, what the reasoning was behind
4 this methodology that I design, where I basically for each NDC
5 quarter, I take an average of this DIFF-FRAC across the
6 different states and then apply that to the remaining 38.

7 But it's very, very, very important, I really want to
8 emphasize, that in doing this, I didn't do it blindly. It's
9 not like I just said, "Let's hope that the other 38 states." I
10 did an incredible amount to adjust for, explore the existence
11 of differences, systematic differences between the 10 states in
12 my sample and the 38 states to which I was extrapolating.

13 And it's certainly true, just in my analysis of the 10
14 states, or even just any one state, there's variability,
15 there's variation. You know, one state might do things
16 differently for vanco than for sodium chloride. One state may
17 do something differently in '95 versus '98. That's certainly
18 true, there's variability, enormous amount of variability in
19 the data, but I'm leveraging this data for -- I don't know if
20 it's 1.7 million claims or 1.6 or 1.8 -- I don't have it, I
21 haven't calculated that right now -- but to calculate these
22 15,000 state NDC quarter-specific DIFF/FRACs to then estimate
23 what are the corresponding values of difference in the other 38
24 states?

25 Now, in doing this, there's a lot that I do to adjust.

1 For example, to the extent that some states consume a lot more
2 vancouver than others, my estimates are going to account for that.
3 To the extent that some states have a lot more utilization late
4 in the period, my estimates are going to account for that.
5 Similarly, you know, there's a number of things, but right off
6 the bat, I did analyses to see and studied the adjudication
7 methodologies of these states to see, is the experience in
8 these 10, is it reasonable, given all my training as an
9 economist, to use these 10 as a basis for the estimate for the
10 remaining 38? And so I looked systematically, are there
11 differences? Of course there's going to be, you know, some
12 states that are more generous versus less generous and so
13 forth, but systematically --

14 THE COURT: Excuse me. More or less generous means
15 what? Like, in what context, larger MACs?

16 THE WITNESS: So perhaps, like, a state may have maybe
17 AWP minus 20 versus AWP minus 5, or a state may use WAC more
18 than AWP, or, you know, something, is there anything -- or do
19 states systematically use, you know, as one can gauge through
20 this data that we talked about before, this Footnote 45 data
21 that we talked about before, does the reimbursement amount on
22 an NDC-by-NDC basis, does it look comparable between the two
23 groups? Okay?

24 And it's certainly true, I will concede, I think it
25 was Mr. Young who talked about there being variability, and,

1 you know, he suggested that it was his -- that much of that
2 might be driven by units, which that may be true; but, once
3 again, are there reasons to think there are systematic
4 differences between the 38 and the 10 -- or not just the 38 --
5 really, the 440 state NDC combinations versus the 1,670 state
6 NDC combinations for the other 38? In any case, I did an
7 enormous amount to look at whether this group of 10 states that
8 account for, you know, in the neighborhood to 60 to 70 percent
9 of all claims, is their experience likely to give me a
10 reasonable, accurate estimate for the remaining 38?

11 And, you know, in doing this, I designed an algorithm
12 that others could replicate, that others could test, and I
13 myself tested it. So, for example, within the Medicaid there's
14 the across-state extrapolation and there's the within-state
15 extrapolation. And so one of the things that I talked about in
16 any rebuttal report was that, you know, in some cases I
17 pretended the data started later than they actually did to see
18 how am I doing in terms of my extrapolation backward in time,
19 and found that, if anything, when I had the hard state claims
20 data, I was getting higher numbers than when I extrapolated for
21 difference.

22 Similarly, I subjected it to the stuff that we talked
23 about last time when I was here, these analyses, in which I
24 looked at 9 specific states, 9 new states, totally, like,
25 weren't in the sample initially, how did the methodology do?

1 And I think here it's really, to me, I think, instructive to
2 look at this document that --

3 Q. Let's stop before you get to the document. I'll pose a
4 specific question to you.

5 MR. BREEN: Do you mind if I interrupt the witness at
6 this point, your Honor?

7 THE COURT: It's your witness. I'm usually the
8 interrupter.

9 MR. BREEN: I know. I'm not used to this.

10 Q. All right, now, we heard a lot today about variability in
11 the sample that you used, and is that variability something
12 that's going to be expected in any Medicaid or Medicare type
13 econometric analysis such as you did here?

14 A. Absolutely. I mean, there would be variables. Suppose I
15 had data for 47 states and I was extrapolating to Hawaii, there
16 would be a lot of variability in the DIFF-FRACs for those 47
17 states. There would be variability for a specific state for a
18 specific NDC over time. There's many factors that go into the
19 calculation of that DIFF-FRAC. And so certainly, even if one
20 had almost the entire population of data, there would be
21 variability. That variability is -- and it's something that,
22 you know, one sees within -- you know, within a particular NDC
23 quarter, we see 10 different DIFF-FRACs, or in some cases eight
24 or six different DIFF-FRACs. There may be some variability
25 there, but that is -- once again, I'm leveraging the

1 information that's available from all these different states
2 and for all these different products and all these different
3 time periods.

4 And I think it's perhaps most instructive to think
5 about the virtue of their variability in the case of Medicare.
6 Now, earlier we saw some exhibits, or I'm not sure exactly what
7 they're called, in which we sort of telescoped in on, if we
8 look at this J-Code in this quarter, only two arrays -- there
9 are only two arrays available in that quarter, which I don't
10 think I agreed with that anyway, but suppose that were true,
11 when I do the across-carrier extrapolation, I'm not just using
12 those two arrays. You know, once again, I'm adjusting the
13 methodology; given all the training that I've had to the
14 application at hand, I'm leveraging dozens of different arrays
15 for each NDC to estimate what the difference is for, let's say,
16 other carriers. So the fact that Wisconsin Physician Services
17 or Cigna or Metra Health, or what have you, changed their array
18 over time, that's not necessarily a bad thing or that they're
19 somewhat different. That's just giving me more information
20 about the variability that's present out in the world, so --

21 THE COURT: Was there a requirement in the regulations
22 as to how many prices need to be used in an array?

23 THE WITNESS: I'm admittedly, like, in terms -- I can
24 speak to all of the arrays that I observed, and there were I
25 think in every array that I looked at at least three, and in

1 many cases more than that, five, seven, what have you. It
2 depended. I don't have off the top of my head what the
3 regulation said.

4 THE COURT: The carrier would have discretion as to
5 how many, as far as you knew?

6 THE WITNESS: I know that the carriers received some
7 guidance from CMS, but it's not -- I don't know the legislative
8 history there, I'm sorry. But I can tell you that for the
9 arrays that, you know, the dozens and dozens of arrays that I
10 used for these J-Codes in this period, that I -- you know, that
11 that's giving me -- the fact that there's a lot of variation is
12 not a bad thing because I'm aggregating for, let's say J 70-50,
13 the arrays that Connecticut General and Wisconsin Physician and
14 so forth had in several different quarters, in many different
15 quarters, when I estimate over to these other carriers. So
16 that kind of variability is --

17 And, you know, it's worth thinking about, at some
18 level at the end of the day, you know, as I attack this as an
19 economist, empirical economist trying to converge to the truth,
20 the most accurate estimate possible of this difference number,
21 it's instructive to think about: As you add more and more
22 NDCs, more and more quarters, more and more states, what's
23 happening to the variability of this difference estimate?

24 Now, this is admittedly somewhat complicated because
25 the state NDC quarter observations aren't perfectly

1 independent, but it is the case that by, in the case of
2 Medicaid and similarly with Medicare, by leveraging so many
3 product, quarter, state, or carrier combinations, I'm really
4 increasing the precision of this estimate. And I went to
5 considerable length in every case, you know, when I
6 extrapolated back in time for Medicaid or for Medicare, when I
7 extrapolated for Medicaid 10 to the other 38, when I
8 extrapolated from the Medicare carriers, the Wisconsin
9 Physicians and so forth to the other carriers, I went to
10 considerable length in each case to assess, is this a
11 reasonable thing to do? Do I need to adjust? Like, you know,
12 in the case of the Medicare across-carrier extrapolation, I
13 adjust down for the reasons that were talked about that -- I
14 know I only have so much time, so I'm trying to sort of
15 cover --

16 Q. Let me stop you. Once you selected your sample for
17 Medicare, what percentages of the time was Abbott's NDC the
18 median?

19 A. For the claims for which I had the arrays?

20 Q. Correct.

21 A. I believe it was 24 percent.

22 Q. And what percentage of the times did Abbott's AWP's make
23 some difference on the median when you applied the alternative
24 prices?

25 A. Almost all the time, about 90 percent of the time, because

1 much more often than not, the Abbott price was not the median.
2 It was above the median.

3 Q. So, now, did you just stop with the sample arrays, or did
4 you have access to other CMS or HCFA data for the Medicare
5 program that would allow you to look at 100 percent of the
6 claims and do some additional analysis to determine if your
7 extrapolation was appropriate?

8 A. Well, I had the entire universe, the entire population of
9 Medicare claims for the J-Codes at issue in this case, I had
10 all of them. Every claim for Medicare was in my data set. So
11 I can look at the actual data and see, at the actual hard
12 individual-level claims data -- I think it's, I don't know,
13 more than 10 million claims -- I don't have it memorized right
14 now what the number is, but millions and millions of these
15 claims -- and so I can see, to what extent are the claims paid
16 by the carriers for which I have data, are they similar to the
17 claims paid for the carriers for which I do not have data?

18 And it's certainly true, if the question that I had
19 set out to tackle was, what is the difference for the state of
20 Nevada in 1998 quarter three for vancomycin 65-33-01, this
21 issue of variability and so forth, it's different than when I'm
22 sort of aggregating over, in the case of Medicaid, tens of
23 thousands of state NDC quarter combinations or thousands of
24 state NDC quarter combinations, because, you know, as one can
25 see from Exhibit 7 --

1 Q. Hold on. Before we go there, let me ask you a question
2 about that because we haven't put it back in front of the Court
3 yet.

4 A. Okay.

5 Q. You've got in front of you Exhibit 7.

6 MR. BREEN: Your Honor, it's this spreadsheet that
7 we've been talking about a couple of times, and I believe that
8 Mr. Young testified that it was prepared at his direction, if I
9 remember correctly.

10 Q. Now, you looked at 9 more states after you did your
11 extrapolation, correct?

12 A. That's right.

13 Q. And you had hard claims data for about two-thirds of the
14 claims for those 9 states?

15 A. State-produced hard claims data.

16 Q. State-produced hard claims data?

17 A. Right.

18 Q. And so you were able to take these 9 states and test your
19 extrapolation methodology, correct?

20 A. That's right.

21 Q. Is that what you did?

22 A. That's exactly what I did.

23 Q. Now, could Abbott's expert witnesses have done the same
24 thing?

25 A. Absolutely.

1 Q. Could they have picked hard claims data from some other
2 states besides these 9 of the 38?

3 A. Possibly. I believe Hawaii, there's a year of Hawaii
4 data, but it seems -- yes, yes, absolutely.

5 Q. And, by the way, when you did your extrapolation to the
6 other 38 states, you used the Medicaid CMS-produced SMRF/MAX or
7 SDUD data, correct?

8 A. Right.

9 Q. So you didn't just use pure extrapolation? In other
10 words, you used the claims data from the Medicaid program also?

11 A. Yes.

12 Q. Okay. Now, does this chart, Exhibit 7, which was created
13 by the defendants but not used by them in this hearing, does it
14 tell us anything about your efforts to test your extrapolation
15 methodology and your sampling methodology?

16 A. I believe that it does.

17 Q. Would you please tell the Court what it tells us.

18 A. So this is -- it's often the case in economic research
19 that one does not have the luxury of suddenly being presented
20 with: Oh, you have this data. One is extrapolated to the
21 greater population. Here's these 9 states' worth of data.
22 Let's see, let's put this extrapolation methodology to the
23 test. How does it work when you take it to 9 states that were
24 outside of the original 10?

25 And so what we find -- and there are two components to

1 this, and I think it's really important to talk about them, to
2 discuss both of them. On the first component -- so there are
3 9 states. For 5 of those 9 states, the difference using the
4 state-produced hard claims data is higher than the difference
5 that results from my extrapolation methodology. I don't want
6 to make a big deal about it's 5 out of 9 or 4 out of 9, but
7 it's true that more often than not, the difference from my
8 extrapolation methodology falls below what emerges when I have
9 state-produced claims data.

10 Now, overall it's within 2 percent. It's the case
11 that it's a little bit -- you know, that basically my
12 extrapolation methodology says 4.10, and this emerges from this
13 4.003. So, you know, they're pretty darn close in the
14 aggregate for these 9 states. And I think it's also useful to
15 see, of course there's variability. In the state of Virginia,
16 my extrapolation methodology said \$155,000, okay? But when you
17 use the state-produced hard claims data, what results is
18 \$200,000, which is to say, it's 30 percent higher when one uses
19 the state-produced hard claims data than using the
20 extrapolation methodology.

21 Now, on the opposite end, it's true that when one
22 looks at the state of Iowa, using my extrapolation methodology
23 yields 435, but when one instead uses the hard claims data, the
24 state-produced claims data, you get 307. That's minus
25 30 percent. So both on the high side, sure, it's true that

1 Virginia, the extrapolation is very low, in Iowa, the
2 extrapolation is somewhat high, but, you know, if you look
3 across these 9 states, they roughly balance, within less than 2
4 percent.

5 And then there's a separate issue over to the right
6 that I'd like to talk about, if I can.

7 Q. Before you get there, I just want to make one point, and
8 tell me if this is correct. Let's assume that you had a random
9 sample that was 90 percent of the nation, 90 percent random, so
10 it was a huge sample and it also met Dr. Hughes's randomness
11 requirements. And you were trying to estimate the differences
12 in one state. Like Hawaii.

13 A. Right.

14 Q. Are you going to expect a significant variance trying to
15 go from the entire nation to one state?

16 A. Absolutely, absolutely.

17 Q. But, but when you try to go from a large portion of the
18 nation to a group of states that represent a smaller amount of
19 the dollars than the sample, do you expect something else?

20 A. Well, if you aggregate, as you aggregate -- so it's
21 certainly true, you know, that we're high by 30 percent in one
22 case, my methodology is high by 30 percent in one case, and my
23 methodology yields a result that's 30 percent low in another
24 case in these 9 examples. But, you know, that's sort of the
25 nature of variability. If it is a well-designed methodology,

1 to the extent that in some cases the estimate is high, it will
2 tend to be balanced by those cases where the estimate is low.
3 You know, like, the methodology was not -- you know, in Iowa it
4 didn't hit the nail on the head in Iowa, nor did it hit the
5 nail on the other side in Virginia, but in the aggregate for
6 these 9 states, I mean, it didn't hit the nail on the head, but
7 it's off by 1.89 percent.

8 THE COURT: Can you just walk me through. So your
9 original extrapolation means what you originally extrapolated
10 from the first 10?

11 THE WITNESS: That's right, that's right.

12 THE COURT: And then what's the new damages?

13 THE WITNESS: So in contrast for the other part over
14 at the right, they did, but they didn't provide -- if you look
15 at the first yellow column, "Hard Claims," you can imagine
16 there being another column in there. Suppose you put another
17 column in there which is "Previous Duggan Estimates," okay?
18 And it would be, in the case of Pennsylvania, it would be
19 basically about \$3,900 less than this \$600,000. And so you can
20 see here, 5 cases out of 9, my methodology -- like, it's -- I
21 don't know, to me, looking at this, having worked incredibly
22 hard to design this methodology, using all of the training that
23 I've had on Medicaid, on Medicare, on large-scale data sets, on
24 empirical analysis and so forth, I feel this is, in my
25 professional judgment, strongly strengthens the case that this

1 methodology is a valid one.

2 Q. Okay, now, let's just make sure we understand what kind
3 of --

4 THE COURT: May I just back up. So what is "New
5 Damages Provided By Duggan"? Do you know what that means?

6 THE WITNESS: This is hard -- so this is -- oh, that's
7 the total. So there's two -- so over to the left there's a
8 total. So there's two components to this, your Honor. There's
9 both the -- so when I did each of my 10-state analyses, let's
10 say for California or for Florida, I used the state-produced
11 claims data often for a bunch of years. And then maybe it
12 started in '95 quarter one. So then I would do this
13 back-in-time extrapolation. And last time I talked a lot about
14 how that methodology, that within-state extrapolation is really
15 conservative because I basically -- if I calculate a DIFF-FRAC
16 of .6, let's say, in '96 quarter one, I never use a higher
17 DIFF-FRAC than .6 going back in time; but I do often scale it
18 down to account for the fact that the spreads are, like,
19 growing over time. My Figure 1 shows that the spreads -- and I
20 did this specifically to account for that, and so the
21 within-state extrapolation is superconservative.

22 Now, earlier Mr. Young made a point that there's this
23 usual and customary issue, which I'll agree, all else equal,
24 that would cut the other way a bit, but the importance of that
25 is dwarfed by this methodology that I have that only scales

1 down the DIFF-FRAC. So it's often the case that the spreads
2 will bounce around. Maybe it's .6, and maybe the previous
3 quarter it's .65, .7, the DIFF-FRAC would be, but I never allow
4 it to go higher. And so that is why when one goes over to the
5 right and you see "Damages Using Intrastate Extrapolation,"
6 that second yellow column, you see 1.96 million; whereas using
7 the interstate extrapolation, which I was doing before for
8 these 10 states, I get a higher number, 2.3 million.

9 What that speaks to is that my within-state
10 extrapolations are superconservative and for this reason that I
11 mentioned before, and I've, you know, talked about this in my
12 rebuttal report. There were cases where I pretended the data
13 started later than it actually did, and, sure enough, the
14 results, the extrapolations produced numbers that were lower.
15 And so these numbers over here, admittedly, last time we talked
16 about the 6 percent and we sort of joked about, oh, I'd like it
17 to be zero percent, I'd like to have hit the nail right on the
18 head. Well, for the hard claims data, I'm within -- I'm 1.89
19 percent off. Over here I'm off by about 15 percent, almost
20 15 percent, but that's because it speaks to the fact that it's
21 so conservative, this within-state. And so I think it's
22 instructive stepping back from all of this and to look at,
23 well, let's look at --

24 THE COURT: When you say you're off by 15 percent, you
25 mean you're off in a way that favors the defendants?

1 THE WITNESS: That's right, when I do the within-state
2 extrapolation, that yields a lower difference for these
3 9 states than when I do the across-state extrapolation.

4 THE COURT: So it's in a way that favors Abbott?

5 THE WITNESS: The yellow column, that's right,
6 absolutely. And so I think it's instructive in evaluating the
7 methodology, let's look at the one state for which I had data
8 for all eleven years, hard claims state-produced claims data
9 for all eleven years. That state is Connecticut. So my
10 methodology said I yielded an estimate of 713, and the hard
11 claims data -- I may have it backwards -- the hard claims data,
12 my methodology yielded an estimate of 722 or 723, when in fact
13 it was about 718. So here I'm not doing any back-in-time
14 extrapolation, and it almost perfectly hits the nail on the
15 head. It's off by .7 percent, less than 1 percent.

16 And so, to me, I look at this, and, you know, I worked
17 very hard and thought very hard and brought all my experience
18 to bear in constructing this extrapolation methodology, and I
19 am not surprised that it works as well as it does because of
20 all the care and effort that I put into designing it, but it
21 is -- you know, it just makes me feel good. I mean, I worked
22 very hard in analyzing this data, and it really strengthens --
23 I already felt very confident in my analyses, and, you know,
24 even more so now.

25 Q. Now, Dr. Duggan, the point I want to make sure is clear,

1 if you look at the second two columns on here, the original
2 extrapolation damages of \$6,398,000 versus the new one where
3 you get it by looking at the hard claims for two-thirds of the
4 claims for these 9 states, and then doing the intrastate
5 extrapolation for the other third, you come up with \$5,986,000.
6 That's within about 6 to 6 1/2 percent of what you extrapolated,
7 correct?

8 A. Correct.

9 Q. Okay. And when you do the extrapolation, you're using the
10 hard claims from the sample, correct?

11 A. That is correct, yes.

12 Q. Okay, all right. Then when you got these 9 states, you
13 said, all right, let's do the same methodology to these
14 9 states; let's look at the hard claims, two-thirds or more
15 hard claims, and let's extrapolate for the ones we don't have
16 now, and you're within 6 percent?

17 A. Right.

18 Q. As the bottom line?

19 A. Overall.

20 Q. Overall. Now, this methodology you've applied, is it a
21 methodology that is accepted in your field? And by that I
22 mean -- and refer to your report. We provided you with copies
23 of the learned treatises that are cited in your report. But is
24 this use of a nonrandom sample something that's accepted in
25 your field?

1 A. Yes, and not with blinders on, but it's certainly true
2 that economists frequently obtain data for a subset of states
3 or a subset of healthcare providers, or what have you, and you
4 use the results from that to try to learn something about the
5 population as a whole. And in doing that, they won't
6 necessarily just -- you know, the author doesn't necessarily
7 just get the results for their sample and then say, "Oh, well,
8 my sample has 10 percent of the population, so I'll just
9 multiply the estimates by 10 and I'm done." That's certainly
10 not -- that wouldn't be a -- that without thinking about the
11 90 percent outside.

12 What an economist would do would be to say: Okay, I
13 have these results from my sample. Now let's think about the
14 larger population, recognize that my sample may not be -- it
15 may not be a random sample, and it may not be fully
16 representative. There may be differences. My sample may have
17 physicians who are on average older than physicians in the U.S.
18 as a whole or something else. So how does one thoughtfully use
19 the results from a sample to say something for the population
20 as a whole?

21 And I think, you know, one really good example of a
22 paper like this that was published a couple years ago in the
23 Journal of Health Economics, which is the leading journal in
24 the field of health economics by Jon Gruber and David
25 Rodriguez -- and Gruber is the director of NBR's healthcare

1 program. He's got a ton of experience. He's done a lot of
2 work, so he's at the top of his field.

3 THE COURT: Which healthcare program?

4 THE WITNESS: The National Bureau of Economic Research
5 healthcare program. And so they use data from a company that
6 processes claims for about 4,000 physicians in the U.S., okay?
7 This represents about 1 percent of physicians in the U.S.
8 And by no means is their sample of 4,000 a random sample of
9 physicians in the U.S. An examination of their summary
10 statistics reveals that the physicians in their data set are
11 much less likely to be sole practitioners. They're more likely
12 to be in groups, more likely to contract with this company and
13 so forth. So they get some estimates from their sample, and
14 then they use those estimates and adjust them and tailor them
15 to account for the fact that their sample looks somewhat
16 different from the population as a whole.

17 So let's backtrack here. In these 10 states, we're
18 talking about 60 to 70 percent of claims versus 1 percent of
19 physicians. We're talking about 10 states that look very
20 similar on average to the remaining 38 states versus a sample
21 of 4,000 physicians which looks very different from physicians
22 in the U.S. And yet the authors of this study, using their
23 training, their expertise and so forth, basically took their
24 estimates to say something about how much uncompensated care do
25 physicians in the U.S. provide? Okay? And of course the

1 details are going to differ. Their unit of observation isn't
2 NDC quarter. Their unit of observation is a physician, but it
3 is at some level -- and, moreover, they don't have -- in my
4 analysis, I have data, in most cases SMRF/MAX individual claims
5 data and in some cases SDUD data for the rest of the
6 population. They don't have that. Like, here's a paper
7 published by one of the leading health economists on the planet
8 in the field, a very top-notch journal using data for a sample
9 that's far inferior to the one that I have to say something
10 about a very important issue. And, you know, of course, the
11 details of what exactly they did are going to differ from what
12 exactly I did, but it's the same kind of thing.

13 THE COURT: We need to finish this up. Let me ask you
14 this. All right, the question I had is the criticism that
15 there was no confidence interval. Are they right that you
16 didn't do a confidence interval, and if so, why don't you need
17 one here?

18 THE WITNESS: So for my analysis, I did not calculate
19 a confidence interval for the overall difference. I think it's
20 useful -- feel free to stop me, but maybe I can go through a
21 little bit of math here in sort of thinking about these state
22 NDC quarter-specific DIFF-FRACs. Let's think about the
23 Medicaid application.

24 Now, let's suppose -- I'm going to throw this out just
25 to give you a feel for this, but let's suppose that every state

1 NDC quarter combination had approximately equal spending. So
2 it gets a little more complicated if we start thinking vanco
3 spends more than this or whatever, but let's just take as a
4 base case that there are basically 50 states, 44 products, 44
5 quarters. So we're talking about in the neighborhood of
6 100,000 state NDC quarter combinations if you have the full
7 sample; I guess 48 states, but about 100,000 state NDC quarter
8 combinations.

9 Now, my analysis calculates these DIFF-FRACs for about
10 15,000 and then later for another 12,000 using these new
11 states, right, about 15,000 of these DIFF-FRACs, okay? Suppose
12 one thinks of -- what I'm doing essentially is trying to
13 calculate essentially, what is the average ratio of difference
14 to Medicaid spending? Is it 60 percent, is it 65, 70 percent,
15 what have you, okay? If I looked across those 100,000 NDC
16 quarter combinations, I'd see a ton of variability. There
17 would be some where there would be no difference or, you know,
18 .2. There would be others where it was .9. There would be a
19 lot of variability. And suppose the standard deviation of that
20 thing was about, I don't know, .15, which is to say that using
21 the formula that Dr. Hughes talked about earlier, that, you
22 know, the typical deviation from the mean is about 15
23 percentage points of whatever that true mean is, whether it's
24 65 percent or 70 percent and so forth.

25 Now one takes an average of about 15,000 values,

1 15,000 draws from this. Now, if it were -- now, I'm going to
2 get to this point about the nonrandomness, but just it helps
3 one to think about the precision of this thing. If one were to
4 calculate what is the standard deviation of that mean, like,
5 what happens to that, it quickly goes from this -- let's
6 suppose it were a bell curve -- it's not, but let's suppose it
7 were a bell curve, it quickly becomes tighter and tighter and
8 tighter to the point where it's almost a spike. And basically
9 the standard deviation would fall by more than 99 percent, if
10 those things were independent of one another.

11 And, you know, I recognize, there's some dependence
12 between them, and it is -- like, which is to say that
13 New Jersey's vanco in '93 quarter four isn't perfectly
14 independent from New Jersey's vanco in '94. But basically you
15 would see that standard deviation, if you just started with the
16 base case of no correlation between these, would go from about
17 .15 down to about .001. So, you know, if you do some
18 simulations, right -- so, you know, I've done some simulations
19 of this, and if you simulate and suppose that each one of these
20 has a standard deviation of, let's say .15, but you take the
21 mean of, like, 15,000 or 20,000 of them, it's so -- like, if
22 the truth is .65, sometimes you get .649, .650, .651. It's
23 incredibly precise.

24 But then I recognize that there is some correlation
25 between these difference fractions, and, you know, it's not

1 quite as tightly distributed, but that is -- it just gives you
2 a flavor for -- it's to me not a surprise at all that when I
3 took this methodology to the data to 9 completely new states,
4 that the resulting DIFF-FRAC was -- you know, we're talking
5 about basically going from -- I don't know if it went from 66
6 to 65 or 64, but, you know, that's the flavor of what happened.
7 So it is --

8 THE COURT: So can I just interrupt. The bottom line
9 is, you don't think you need to do a confidence interval?

10 THE WITNESS: That's right.

11 THE COURT: I have to say I've done other Daubert
12 hearings in statistics where I typically will get a confidence
13 interval. So is it because you have this large set of data
14 points? Why -- I mean, would it be easy for you to calculate
15 one?

16 THE WITNESS: It is something that -- like, I just
17 took you through the example of the standard deviation of .15
18 falling to about .001. Then one could think about adjusting
19 for this correlation. And it's certainly not -- I wouldn't
20 want to sit back, go back and think hard about this. It's
21 tricky because to some extent it's going to -- there's going to
22 be a number of factors that will go in: What do you think
23 about how much states differ? Like, do you think that states
24 are basically the same, okay, you know, to a first order
25 approximation, or is there a little bit of -- so it's somewhat

1 of a tricky thing, but it certainly wouldn't be impossible to
2 do.

3 THE COURT: Did your friend Gruber do a confidence
4 interval for the physicians?

5 THE WITNESS: For his analysis? I'd have to go back
6 and look at that. But, you know, for the purposes of this
7 application, it would not be -- it certainly wouldn't be
8 impossible to do. I just don't want to -- things are never as
9 easy as I think they will be.

10 THE COURT: I guarantee you, after ten years with
11 this, I agree. But just I typically see one.

12 THE WITNESS: Okay, yeah, but just to give you a
13 flavor, just to give you a flavor, the typical standard
14 deviation for these DIFF-FRACs is in the neighborhood of .15 or
15 .2. You know, it's going to vary from NDC to NDC from period,
16 whatever. Let's take it as .15. If you just take the
17 straight, okay, we've got 15,000 state NDC quarter
18 combinations, so we're basically taking the mean of 15,000
19 DIFF-FRACs. It's not that simple because, of course, the sum
20 of the DIFF-FRACs matter more than others because they have
21 more spending in them, but, you know, just taking a sort of
22 first-pass analysis here as we discuss, that .15 would plummet
23 to about .001.

24 Now, that's, you know, making some assumptions. One
25 would need to adjust -- so what does that mean? .001, that

1 means if we're talking -- basically the central limit theorem
2 would begin to --

3 THE COURT: Professor, I don't know what that is.

4 THE WITNESS: Okay.

5 THE COURT: Let me just say, is it the standard in the
6 field to give me a confidence interval?

7 THE WITNESS: It is -- it depends on the application.
8 For this application, it would not necessarily be -- it's
9 not -- it would just depend. I think, for this application, it
10 would not be -- it would not necessarily follow that that would
11 be a --

12 THE COURT: But one is doable?

13 THE WITNESS: It's potentially doable, but it is a --
14 you know, and I think at some level it is doable, but here we
15 can see, we can see that I went through and calculated these
16 actual DIFF-FRACS, and at some level there is -- there are
17 inevitably going to be some complications to the calculation of
18 this confidence level that go beyond -- when Gallup asked
19 people who are you going to vote for in the election and they
20 randomly sampled 2,000 people, and they can basically just do a
21 straight standard deviation and confidence interval from that,
22 this application is somewhat more -- it's more complicated than
23 that, okay, than to calculate the confidence interval for --

24 THE COURT: I have no doubt about that. My point is
25 only, they are claiming that it's standard in the field.

1 THE WITNESS: It is often true that authors would
2 produce such a confidence interval. It would depend on the
3 application. It's not a guarantee.

4 THE COURT: I have no doubt that you will handle the
5 complexity, but the thing is, if you do it, will you end up at
6 at least a 90 percent confidence interval?

7 THE WITNESS: You know, I think it is something
8 that -- it is plausible that that is something that I could,
9 you know, going back to this, push hard on. I mean, this is
10 not -- this -- so it is certainly -- I guess I just -- it's --
11 I have tried in everything I've done on this case and on two
12 other related cases, I have tried to be incredibly accurate, as
13 accurate as I possibly could in everything that I did --

14 THE COURT: I have no doubt. I am simply -- this is
15 about not your good faith or your ability or your knowledge in
16 Medicare. It's about, is it standard in the field to do
17 something? And in those two other occasions, did you do a
18 confidence interval?

19 THE WITNESS: For the --

20 THE COURT: I don't know, those two other ones you
21 just referred to?

22 THE WITNESS: The two other papers?

23 THE COURT: Yes.

24 THE WITNESS: So we took a sample of drugs that
25 coincidentally represented about 65 percent of drug spending in

1 the case of Medicaid and used something -- so this is the paper
2 published in the Quarterly Journal of Economics --

3 THE COURT: Right, and did you do a confidence
4 interval?

5 THE WITNESS: And then saying, how much higher is
6 Medicaid spending in the U.S. because of this? We did not in
7 that particular study have a confidence interval on that final
8 estimate; but we did in our regression analyses, there were
9 confidence intervals applied -- implied by ourselves. But when
10 we took those estimates to the all pharmaceutical products and
11 said, how much higher are pharmaceutical products on average in
12 the U.S. because of Medicaid, I can't remember what the exact
13 number was, but, you know, that's not something where we had a
14 confidence interval in that peer-reviewed paper.

15 Q. Dr. Duggan, are you saying that confidence intervals, just
16 the generic term "confidence intervals," are not required in
17 every extrapolation methodology? Is that what you're saying?

18 A. I am saying that they are not required in every
19 extrapolation methodology.

20 Q. Okay. And are you also saying that where you have lots
21 and lots of data, data points, and you're getting more and more
22 and more, that by mathematical or, rather, statistical reality,
23 you're going to wind up getting a bell curve that starts
24 looking more like a rocket than a bell?

25 A. Absolutely. So basically, if you think about --

1 Q. Hold on, hold on, hold on. So are you saying that in that
2 is instance, you can do a confidence interval, but it's not
3 going to be helpful based upon the application at hand at that
4 time?

5 THE COURT: You know, you must have learned a lot from
6 this Demystifying Statistics, but let me just say this: I am
7 not sure I -- I've understood almost everything you've said,
8 and I guess I'm not understanding why it isn't standard to do a
9 confidence interval where I've almost always seen one.

10 THE WITNESS: Right, no, this is a -- so it is
11 plausible that with some work I could sit down and do this, and
12 I've just gone through -- I mean, I literally in preparing for
13 this, I thought hard about this issue of the confidence
14 interval, and so -- because I sort of -- it was just my sense
15 from this new stuff last week that this was going to possibly
16 come up. And so this is an issue, and I've thought about it
17 before as well, but I did some, like, simulations and so forth
18 of this. And basically if -- so it really comes down to, do we
19 think these 10 states, and now these 19 states, are
20 representative of the remaining 29? I mean, of course, there's
21 going to be exceptions. One of those 29 is going to be bizarre
22 up, bizarre down, and so forth, but are they representative?
23 Because if one thinks that they are representative of those
24 remaining 29 within -- you know, they may be -- they probably
25 will be off --

1 THE COURT: Let's say I said they were representative.

2 THE WITNESS: They were perfectly representative.

3 THE COURT: Or not perfectly --

4 THE WITNESS: Yeah, but say they were representative.

5 THE COURT: -- but there's reasonable probability that
6 they are representative, and you do your analysis of what you
7 think the damages are, as I'm understanding it, they're still
8 criticizing you because you haven't figured out whether that's
9 true within a 90 percent degree of certainty or whatever.

10 THE WITNESS: Right, I mean, the degree of
11 certainty -- now, this buttresses the assumption that the 10
12 are on average, on average, a good approximation to the
13 remaining 38, this analysis --

14 THE COURT: You're saying that undercuts the need to
15 do the confidence interval?

16 THE WITNESS: No, no, no, I mean, but it makes almost
17 the assumption of it being closer to random. I will be the
18 first to admit it's not a random --

19 Q. Dr. Duggan, I don't think you're answering the question.

20 A. Okay.

21 Q. For your study to be accepted in the field of
22 econometrics, do you have to have a confidence interval? Is
23 that what you need to figure out whether or not it's accurate?
24 Or is there something else, like a 9-state test you can do or
25 something else? What is the best way in your field --

1 A. In my --

2 Q. Hold on, listen to me. In your field, what is the
3 accepted standard for testing your extrapolation? Do you have
4 to do a confidence interval, or is there something else?

5 THE COURT: Now you've got four questions.

6 A. No, it is not a necessary thing to do a confidence
7 interval, and ultimately there is going to be no better test
8 than subjecting it to an out-of-sample prediction. There's
9 nothing --

10 THE COURT: So you're saying that the 9-state test
11 that's in here --

12 THE WITNESS: Yeah, dominates.

13 THE COURT: -- substitutes or is better than a
14 confidence interval?

15 THE WITNESS: Absolutely.

16 THE COURT: That's your position?

17 THE WITNESS: Absolutely.

18 THE COURT: Okay.

19 MR. BREEN: No further questions, your Honor.

20 CROSS-EXAMINATION BY MR. DALY:

21 Q. Good afternoon, Doctor. So I want to be clear. You could
22 have done a confidence interval, but you didn't, right?

23 A. I --

24 Q. Is that correct?

25 A. I said it is plausible, I think, if I remember correctly,

1 it is plausible that with some additional work, I could come up
2 with an estimated confidence interval for this.

3 Q. But you didn't, correct?

4 A. But I did not, that's correct.

5 Q. And you said -- I thought I also heard you say that it's
6 plausible that it might hit 90 percent on a confidence
7 interval. Was that your testimony?

8 A. I don't understand that question.

9 Q. Do you know what the confidence interval would be here?
10 Might it be lower than 90 percent?

11 A. Do you mean a 95 percent versus a 90 percent versus a 97?

12 Q. Yes, yes.

13 A. So one can calculate a 90 or a 95th or what have you,
14 depending on the analysis, so one could -- I'm not taking a
15 stand on whether the 95th or the 90th or --

16 THE COURT: Do you think it would get to 90 percent
17 confidence interval?

18 THE WITNESS: Would this?

19 THE COURT: Yes.

20 THE WITNESS: Well, when you say would "it" get to
21 90 percent --

22 THE COURT: If you do the confidence interval of your
23 extrapolation, do you feel as if it would be 90 percent or
24 more?

25 THE WITNESS: On -- well, at some level -- you mean

1 that it's greater than zero or that it's -- so there's an
2 estimated difference for these remaining states.

3 THE COURT: Right.

4 THE WITNESS: And you can imagine -- so suppose that
5 there was an associated confidence interval, and suppose that
6 the estimated difference is, I don't know, 15 million for the
7 states that remain. Is the 90 percent confidence interval 14
8 to 16, 14.9 to 15.1, 14.5 to 15.5? I would hesitate to
9 speculate, but that's the kind of window we're talking about.
10 Like, having worked with this data and analyzed and leveraged
11 these hundreds and hundreds of thousands of claims, you know,
12 for those remaining states, maybe it's 15 million in difference
13 for them, and whether the 90 percent confidence interval is 14
14 to 16 or 14 1/2 to 15.5 or something, like, that's -- we're not
15 talking about is the confidence interval minus 5 to 40? So
16 we're talking about a very, very, very tight confidence level.

17 Q. But you didn't do it, and so you don't actually know what
18 the interval would be; isn't that correct, Doctor?

19 A. Yeah, I haven't calculated that right here.

20 Q. Now, you mentioned early that you, I think talking about
21 the size of the sample, you were talking about having done 10
22 states, 44 products, 44 quarters, and 15,000 pieces of
23 information. Do you recall that generally?

24 A. Right, and underlying each of those is many, many claims.

25 Q. And we're talking Medicaid when we talk about that, right?

1 A. Right.

2 Q. So we're talking about the 10 states that you had what
3 we're calling "hard data" for today, right?

4 A. Right.

5 Q. And it's your understanding that Abbott is not challenging
6 what you've done with the hard data for the 10 states?

7 A. I guess I just want to make one point. The hard data --

8 Q. Can you answer my question first, though?

9 A. I want to backtrack because you said "hard data." So I've
10 got three types of data, all of which I would call "hard." One
11 is state-produced claims data, one is CMS, one is SDUD data.
12 Okay, so with that clarification, because I have hard data for
13 all 48 states, but now with that clarification, can you re-ask
14 the question?

15 Q. My question was, it's your understanding that Abbott is
16 not challenging what you did and the numbers you came up with
17 for the states and for the time periods where you had
18 state-produced claims data, correct?

19 A. That is my understanding, although I was confused by some
20 of the earlier stuff.

21 THE COURT: Well, that's not totally true, though.
22 You're challenging with respect to quarters where you don't
23 have --

24 MR. DALY: Well, but when I say "state-produced data,"
25 that's the states and the quarters where he had the drugs,

1 where he had the state-produced data.

2 THE COURT: Okay, I just want to make sure I
3 understand.

4 Q. You talked about, you made an example of "if I had data
5 from 47 states and if I extrapolated it to Hawaii." Do you
6 remember that? I just want to be clear. You don't have data,
7 you don't have state-produced data from 47 states here, do you?

8 A. Oh, that's correct.

9 Q. And we're still in the world where in terms of your
10 extrapolation -- I want to be very clear about this -- in terms
11 of the extrapolation that you did in Medicaid, you only used
12 the 10 states and the data that you had associated with the 10
13 states to extrapolate to the other 38, not the new 9-state
14 analysis that you've done, right?

15 A. I only used the state-produced data for the 10 states to
16 extrapolate to the other 38, that's right.

17 Q. Right, so to be absolutely clear, you didn't extrapolate
18 to the other 38 from 19 states. You only extrapolated from 10,
19 right?

20 A. Right. But I guess I would like to point out that the
21 similarity between my methodology and the use of the state
22 claims data strongly suggests that had I leveraged those 19
23 states for the remaining 29, my estimates would have been
24 incredibly close to what currently exists for them. And so
25 that is -- it's just worth noting that that --

1 Q. And it would be incredibly close if you actually had data
2 for the other 21 states and did an analysis, and it turned out
3 to be the same as the analysis that you did for the 9 states a
4 month or so ago, right? If they turned out to be the same,
5 then it would be incredibly accurate, right?

6 A. I'm confused. Are you saying that if I got data for the
7 29 other states, state-produced data, did an analysis like I
8 did for Florida and so forth, and found that the results from
9 that lined up in the aggregate very well with my
10 extrapolation --

11 Q. Let me back up. I thought you were saying that your
12 9-state analysis that you did before our last hearing makes you
13 feel that what you did for your extrapolation was incredibly
14 accurate. Is that fair?

15 A. It was very accurate.

16 Q. Okay. And the reason is that, in your mind, the results
17 of your 9-state analysis ended up within 2 percent of what you
18 extrapolated, right?

19 A. That's one reason.

20 Q. Okay. But if you had the data for the other 21 states,
21 you don't know sitting here today how that analysis is going to
22 turn out, do you? I mean, you can't.

23 A. For the other 29?

24 Q. Right.

25 A. I have not done the other 29, that's true.

1 THE COURT: You know, I don't care if we have closing
2 arguments, but if you want to, you need to finish.

3 MR. DALY: I just wanted a few minutes, Judge, so --

4 THE COURT: Excuse me?

5 MR. DALY: Oh, you're saying I can go ahead? Okay.
6 I'm almost done, your Honor.

7 THE COURT: It's just going to -- I'm not staying past
8 5:00.

9 MR. DALY: Okay.

10 Q. And when Mr. Breen was asking you questions, you were
11 talking about one of the states in the 9 where the analysis
12 ended up almost exactly what you had extrapolated it to be. Do
13 you recall that testimony?

14 A. I sure do, Connecticut.

15 Q. That was for Connecticut. That was for one of the
16 9 states, right?

17 A. Right.

18 Q. For several of the states, your analysis turned out to be
19 not so close, right?

20 A. In one case it was 30 percent high, in another case
21 30 percent low, so, right, not as close as Connecticut.

22 Q. Well, in one of the cases, it was 42 percent higher when
23 you did the extrapolation than when you actually did the claims
24 analysis, correct?

25 A. I think it's helpful to separate as you're, I don't know,

1 perhaps as Mr. Young's colleagues did, between the state-
2 produced claims analysis and the intrastate. And when we're
3 talking about the state-produced claims data, the difference is
4 30 percent, not 42 percent.

5 Q. And if we were to talk about these other 21 states that
6 are still out there --

7 A. 29.

8 Q. -- 29 states, I'm sorry, that have not been analyzed
9 fully, you don't know sitting here today whether those states
10 are going to be 30 percent, within 30 percent of what you
11 extrapolated for them or within 5 percent or within 50 percent
12 or 30 or 45 or 55; isn't that correct?

13 A. Any individual state. So it is plausible, for example,
14 that were one to run through and do an analysis for Hawaii,
15 Hawaii, for example, might be off by a considerable amount,
16 just, you know, as we see Utah or Virginia here, but it is --
17 the virtue of leveraging all this data for all these states,
18 all these products, all these quarters, is that to the extent
19 that in some cases the methodology estimate is high, that will
20 tend to be balanced by cases where it is low.

21 Q. And that's how it worked out for these 9 states that you
22 did, right?

23 A. True.

24 Q. And some of them were high, and some of them were low,
25 right?

1 A. Correct.

2 Q. But you don't know for the other 29 whether it's going to
3 be an equal balance when you compare the high states there and
4 the low states there, right?

5 A. It is true, I haven't done those 29 analyses.

6 Q. Conceivably, all of those states could be lower than what
7 you extrapolated them to be, correct?

8 A. I think the probability of that if we were to do -- you
9 know, if we think that there's one-half probability that
10 emerges from here, if we take, and perhaps it's not a half, but
11 if we take a half to the 29th power or even a quarter to the
12 29th, we can talk about an estimate, but that seems very, very,
13 very, very unlikely.

14 Q. But you don't know?

15 A. I do not know with certainty that all of them are not
16 high. But that would be tantamount to 29 consecutive hits.

17 Q. The last line would be, you were talking about Abbott's
18 AWP or an Abbott price being the median 24 percent of the time.
19 Do you remember that?

20 A. I do.

21 Q. And I think you said something like 90 percent of the time
22 it had an effect on the median? Was that your testimony?

23 A. I think actually --

24 Q. Have you changed it out?

25 A. Do you mind, I'm going to go back and look at my analysis.

1 So the percent of claims with difference greater than zero for
2 these -- I'm just trying to think of -- it's close to -- in
3 terms of a claims-weighted measure, it actually, I think,
4 exceeds 90 percent of the time that when one adjusts the Abbott
5 AWP, the median falls. Now, that median falls doesn't
6 necessarily mean the claim has difference greater than zero
7 because it might be getting paid at usual and customary, so it
8 wouldn't move. But in the vast, vast majority of cases on a
9 claim-by-claim basis, on a claim-weighted basis, when the
10 Abbott AWP or AWP's move, the median moves.

11 Q. All right. And the percentages you're talking about
12 there, those are situations where you had the median and could
13 see the Abbott price being used, and could see what happened
14 when you changed the Abbott price to your but-for AWP, correct?

15 A. Right.

16 Q. So that in all of the situations where you do not have the
17 arrays with which to do that, you can't tell whether or by how
18 much money the median would change in any quarter in which you
19 do not have an array, correct?

20 A. Well, you know, we talked about this a bit last time. As
21 I said then, we know that for about 1.3 million of the claims,
22 it's an Abbott AWP is the median in these other carriers for
23 which I do not have the array information. And, you know, just
24 as with Medicaid, leveraging the information from all of these
25 carriers to these other carriers for which I don't have arrays,

1 it is -- I don't know the amount by which it would change in
2 any single individual claim, but it is certainly clear that
3 there are many, many in which the Abbott AWP is the allowed
4 amount.

5 THE COURT: In the carriers that you do have, what
6 percentage of the claims are they?

7 THE WITNESS: I think it's -- well, if you count the
8 DMEs, the durable medical equipment, and you do it on a dollar-
9 weighted measure, I think it's in the neighborhood of about
10 40 percent of dollars are accounted for. I don't have the
11 claims number offhand, but --

12 THE COURT: For those carriers.

13 THE WITNESS: -- about 40 percent of dollars, Medicare
14 dollars, are in carriers where I have -- so I've got all of the
15 DME. And then there's the Medicare Part B claims, those are --
16 yes, so that's the number that leaps out, but there are a lot
17 of numbers, so it's hard for me to remember, but that's the
18 ballpark, 40 percent dollars.

19 Q. And that includes --

20 THE COURT: You know what, we're never -- we can give
21 up closing argument, but I'm not staying past 5:00. I've been
22 at this all day. You've been at it all day. We're finishing.

23 Q. The 40 percent includes the DME claims?

24 A. Correct.

25 Q. Okay, which is \$11 million that we haven't been talking

1 about.

2 MR. DALY: That's all I have.

3 THE COURT: Thank you. Good-bye. Have a nice trip.
4 You know what --

5 THE WITNESS: Am I allowed to say just one last
6 sentence?

7 THE COURT: Yes.

8 THE WITNESS: There was an example that kept coming up
9 in the morning about if there were a 100 people in a room and
10 we went to the 50 richest people in the room, and we were
11 trying to estimate food consumption or something else, of
12 course that would be an incredibly biased estimate of food
13 consumption for the whole population of 100. But that's not
14 the case here.

15 THE COURT: All right. Did you have one last
16 question? No?

17 MR. BREEN: No, your Honor.

18 THE COURT: Good-bye. Thank you.

19 THE WITNESS: Thanks.

20 (Witness excused.)

21 THE COURT: As far as I'm concerned, the experts can
22 leave and make their plane or listen. I don't know how much
23 can be accomplished in the five minutes, but do you both want
24 it?

25 MR. DALY: I can do five minutes, Judge, if you're up

1 for it.

2 THE COURT: It's your Daubert motion.

3 MR. DALY: Yes, Judge, I mean, I'd like to say a few
4 words, if the Court is willing.

5 THE COURT: Yes, till five of, and then I'll give him
6 till five of, okay? That's it. And I have no more briefing,
7 categorically prohibited.

8 MR. DALY: Judge, in your decision in the Loughren
9 case, which, you know, we take a lot of guidance from, you
10 indicated that extrapolation is okay if you have a
11 statistically valid methodology and sample; and we've cited
12 cases in our brief which suggest that if the methodology is
13 shown to be flawed, it's not our burden, and it's really
14 irrelevant which way it might fall. In other words, is it an
15 overestimate, is it an underestimate? And I think you've heard
16 a lot of testimony back and forth: In some states it might be
17 over, in some states it might be under, it might be under by a
18 lot here, it might be over by a lot there. And maybe it all
19 evens out in the wash, but that's really beside the point in
20 terms of the analysis of whether or not what Dr. Duggan has put
21 forward is statistically valid. And it's very important here
22 because this is obviously a False Claims Act case, and every
23 mistake, every overstatement, every unfounded estimate gets
24 multiplied by three when we get to a jury and we start talking
25 about damages, if liability is found against Abbott.

1 So it's very critical at this point in time that we
2 look at the situation and decide what has an adequate
3 foundation in terms of what is accepted in the statistical and
4 economic community and what isn't. And what is acceptable, we
5 go forward on and we argue about it on the merits, and what
6 doesn't pass muster, we should close the door on it now because
7 of the chance for three times the prejudice that my client is
8 going to face in a False Claims Act case.

9 In the Medicare world, it's the same problem whether
10 you talk about in-carrier extrapolation or across-carrier
11 extrapolation. Judge, if you remember from my book last time,
12 Exhibit 33 in the book that I had with Dr. Duggan, all this
13 gray area is stuff where Dr. Duggan has nothing, he has zero
14 array, not a single array. Not a single time below this line
15 can Dr. Duggan look at this, and he just said it, he cannot
16 look at this and say -- maybe 24 percent of the time an Abbott
17 price is in the array, but he just said, "At no point can I
18 look at any one of these boxes and say how much it might move
19 when I insert my but-for because I don't have the array. I
20 don't know what effect. I don't know who else. I don't know
21 if there's three, four, five, six, seven, eight, nine other
22 companies in there." And we gave you all those examples that
23 show how it matters and how it severely affects damages if you
24 do that.

25 It's the same problem above the line, Judge, in the

1 sense that while he might have an array for Metra for Q-4 1997,
2 he doesn't have it for these other states. And we showed
3 examples where even the same carrier for the same drug in
4 different years comes up with different damages when you run it
5 through Dr. Duggan's formula. Why? Because, again, if you
6 don't have the array, if you don't know who else was in there,
7 you can't tell how much the median is going to move when you
8 insert Abbott's new but-for that he calculates.

9 So for Medicare, it's the same problem, whether you're
10 talking about total extrapolation to carriers where he has zero
11 arrays or extrapolating to carriers where he has some arrays
12 for some years but no arrays for many of the years. And when
13 you look at the chart --

14 THE COURT: You think this is Exhibit -- what are you
15 pointing to? I just want to make sure I'm on the same page,
16 Exhibit --

17 MR. DALY: Exhibit 33 in the book I used with
18 Dr. Duggan in December, Judge.

19 MR. TORBORG: Exhibit 33 of today's book.

20 MR. DALY: Oh, of today's book? Of today's book. I'm
21 sorry, Judge.

22 THE COURT: All right, all right. I have both the old
23 and the new book, so --

24 MR. DALY: So that's our position on Medicare. And,
25 you know, when we talk about how many arrays he did have,

1 remember -- and this came up very clearly and is unrebutted by
2 the plaintiffs here -- it's not as if he had four or seven
3 arrays all the time for all drugs, even when he had some
4 arrays. For many of the drugs, he only had one or two arrays.
5 So you don't even have sort of this momentum that you might
6 build up if I had all the arrays for all quarters for a drug.
7 He doesn't have that for anything. For many of the drugs and
8 many of the quarters and many of the J-Codes, he only has one
9 or two arrays, and yet he's extrapolating both backward in time
10 within that carrier and then extrapolating down to all the
11 other carriers where he doesn't have any arrays at all. So,
12 you know, whether it's four or seven, one, two, or three, it
13 matters as to whether or not that's really reliable. Is it
14 reliable to take one --

15 THE COURT: All right, I get the point. Just we need
16 to finish.

17 MR. DALY: All right, you've got it.

18 Medicaid, Judge, you know, there's a difference, we
19 think, with the in-state extrapolation, you know, that you can
20 say certain things about that. I think our focus really is on
21 the across-state extrapolation. And to me it's -- you know,
22 your Honor has the Massachusetts case in front of you, and what
23 I would suggest is that if the Massachusetts plaintiffs came in
24 and said, "Judge, you know, we're going to prove up our case.
25 I know it's Massachusetts Medicare, but, you know, I don't have

1 any Medicaid data for Massachusetts, but I've got this great
2 data from California that I'd like to use instead and prove up
3 my Massachusetts case by using some other state's data."

4 THE COURT: So you view this as similar. I'm sorry to
5 rush you, but I've got to give them their turn.

6 MR. DALY: Yes. All right, so I'm saying that if they
7 did that in that case, you would not let them do that, and you
8 shouldn't let them do it here.

9 THE COURT: Great. Mr. Lavine?

10 MR. LAVINE: Believe it or not, even with five
11 minutes, I'm going to split my time with Mr. Breen, so I'll try
12 not to speak too fast for you to follow.

13 Three quick points. We heard testimony today about
14 whether certain sales to noncontract pharmacies should be
15 included in the alternative prices calculated by Dr. Duggan,
16 and Abbott's Daubert specifically said on Page 5, Footnote 8,
17 that that was not part of their Daubert motion, so we'd ask
18 that the Court disregard all of that because they said they
19 weren't going to address that.

20 Two, the binder, there's a lot of exhibits, the bulk
21 of which apparently have been withdrawn, and we'd ask that the
22 Court not consider any of those extra materials that have never
23 been identified or discussed in any matter.

24 THE COURT: Right, next point. Don't worry. I don't
25 do extra reading. I've got enough that I've got to do. I've

1 got it, all right.

2 MR. LAVINE: We have a set of the peer-reviewed
3 literature we'd like to have marked.

4 THE COURT: I've got it.

5 MR. LAVINE: I'm not sure if we --

6 THE COURT: I think I do. I'm going to go look and
7 see if there are confidence intervals in there, so --

8 MR. LAVINE: On the substance, there's a virtual
9 certainty that there are damages in the extrapolated states and
10 carriers. I mean, there's no doubt that Medicare and Medicaid
11 programs have been hurt. The question is, has Dr. Duggan
12 developed a methodology that allows him to say reliably, with
13 reasonable scientific certainty, that the damages are at least
14 in the amount that he's come up with. And he's done so much
15 work looking at not just focusing on the sample and putting
16 blinders onto the rest of the universe, he's looked at the rest
17 of the universe. And, in particular, on the carriers where we
18 don't have the matching arrays, where Abbott's AWP shows up as
19 the paid amount 1.3 million times, the other paid amounts, even
20 when it's not Abbott's, they're equal to the published amounts
21 of the AWP's of the competitive products.

22 So it's not as if we looked at the data for the
23 carriers where there are no arrays and we see all these
24 inexplicable allowed amounts showing up. And there's no reason
25 to believe that the carriers where we had the arrays, as

1 compared to where we don't have the arrays, were doing anything
2 different. Everything points in the direction that they were
3 doing the same things.

4 THE COURT: Okay, you know what --

5 MR. LAVINE: So there's variability, but the
6 variability is similar in both pieces of the equation.

7 THE COURT: Thank you. Mr. Breen?

8 MR. BREEN: Real quick, Judge. There's damages.
9 Reasonable certainty is the standard. Dr. Duggan has presented
10 an econometric model that is clearly a model that follows
11 the --

12 THE COURT: Well, I get that except for the confidence
13 intervals. And it may be that in the literature they say other
14 things suffice, but if I say you need confidence intervals, one
15 should be calculated. He says it can be.

16 MR. BREEN: It could be. He doesn't believe it's
17 helpful, he doesn't believe it's required.

18 THE COURT: I don't know. I mean, I'm just saying,
19 the standard literature talks about it, right? In the past
20 I've had multiple cases, they have them. He says, at least in
21 the Medicaid context, the 9-state check is an adequate
22 substitute. That's hard for me to know. I don't know. I
23 don't know if -- I can see why he's saying that, but it's only
24 9 states. He's pushing on the other 28 states or whatever.
25 What's the big deal for him to do it?

1 MR. BREEN: Your Honor, I think the key thing is -- if
2 that's the requirement and somebody wants to see it, he can do
3 it. The key thing is, his extrapolation methodology, his
4 algorithm is testable, replicable. You can replicate it, and
5 you can modify it. All those things can occur depending upon
6 what the jury determines in trial and the various permutations
7 that could occur at trial. That's the requirement for a good
8 damages model.

9 All the information is there. He doesn't think it's
10 required to do a confidence interval. He doesn't think it's
11 even helpful because of the central limit theorem concept that
12 he was trying to testify about, but it could be done, and I
13 think that's the critical thing about this particular
14 methodology.

15 THE COURT: At 4:30 on a Friday afternoon. My point
16 is only that as far as I'm concerned, that is a question in my
17 mind, just because I have typically -- I'm not totally new to
18 statistical Daubert hearings -- I have typically seen one. I
19 remember taking statistics. People talk about them. People
20 always say to the 95th percent confidence interval or
21 90 percent. I mean, it's not -- his is the exception, not the
22 rule. And maybe it is true that there's some intuitive appeal
23 that when you actually check it out in 9 big states, that's
24 enough. How do I know? Does it say it in the literature
25 somewhere? How do I know? You know, I --

1 MR. BREEN: I think the evidence in the Daubert
2 hearing is, your Honor, that it's pretty -- Dr. Duggan has
3 testified to it, that there's been nothing presented --

4 THE COURT: I know he has, and he's very
5 knowledgeable. I mean, my God, he's Mr. Medicare/Medicaid. I
6 am just simply saying, on the methodology, on the methodology,
7 it's typically seen.

8 MR. BREEN: If it resolves it in any way, we could
9 certainly supplement it and put it in; but at the end of the
10 day, everything that we've heard here for the last few days in
11 this hearing is stuff that's attacking assumptions. That's for
12 the jury to decide and what have you in terms of the --

13 THE COURT: I understand that, but --

14 MR. BREEN: And if it's something that would make it
15 clearer or make it easier, whether it's needed or not, he can
16 certainly supplement it and we can put it in.

17 THE COURT: I don't know. I could look at Statistics
18 for Lawyers, Statistics for Dummies, Demystifying Statistics;
19 Mosteller, which was the book I used back in the ancient days
20 of statistics -- isn't that his name? We probably all studied
21 from the same, Statistics For Social Scientists. I mean, at
22 the end of the day, most of them talk about confidence
23 intervals.

24 MR. BREEN: Okay, your Honor, at the end of the day,
25 they started doing the standard deviation analysis. You said

1 that he could answer that. We could certainly file an
2 affidavit with the confidence interval in it if that will make
3 things earlier. We'd be happy to --

4 THE COURT: Well, I'd leave that up to you.

5 MR. DALY: On the theory of no new analyses, Judge, we
6 would object.

7 THE COURT: I understand, but if I say that I'm
8 accepting everything else but I have this one concern, I will
9 let him supplement, I mean, at the end of the day. So I'm
10 going to let -- I don't know. You've challenged a million
11 other things that I've got to walk through. But I'm not having
12 this case rise and fall if he can do it and it's an appropriate
13 confidence interval calculation.

14 I think the problem I'm having with your side, not
15 just theirs, is, under your theory, particularly with Medicaid
16 where we have so much information, there's no way you can do
17 it. Now, it's not persuasive, the rich people from the room
18 isn't persuasive to me. So you have a much better argument if
19 I relook at Exhibit 33 on the gray areas on the carriers, but
20 on the Medicaid, there's going to be something I'm going to let
21 in.

22 On how far we extrapolate on the carriers, I don't
23 know. Dr. Duggan candidly admitted that was much harder last
24 time. And the data is what the data is.

25 Thank you. Have a wonderful weekend. Who do I see

1 again? We can go off the record. Lee has been working all
2 day.

3 (Discussion off the record.)

4 (Adjourned, 5:05 p.m.)

5 C E R T I F I C A T E

6
7 UNITED STATES DISTRICT COURT)
8 DISTRICT OF MASSACHUSETTS) ss.
9 CITY OF BOSTON)

10
11 I, Lee A. Marzilli, Official Federal Court Reporter,
12 do hereby certify that the foregoing transcript, Pages 1
13 through 237 inclusive, was recorded by me stenographically at
14 the time and place aforesaid in Civil Action Nos. 01-12257-PBS
15 and 06-22447-PBS, In Re: Pharmaceutical Industry Average
16 Wholesale Price Litigation, and thereafter by me reduced to
17 typewriting and is a true and accurate record of the
18 proceedings.

19 In witness whereof I have hereunto set my hand this 31st
20 day of January, 2010.

21
22
23
24 /s/ Lee A. Marzilli

25 _____
LEE A. MARZILLI, CRR
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